OE FORM 6000, 2/69

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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ERIC REPORT RESUME

ERIC ACC. NO. ED 032 292				
CH ACC. NO. SP 003 096	**P.A.** 24	**PUBL. DATE** Jun 69	**ISSUE** RIEJAN70	

IS DOCUMENT COPYRIGHTED? YES ☐ NO ☒
ERIC REPRODUCTION RELEASE? YES ☐ NO ☒
LEVEL OF AVAILABILITY I ☒ II ☐ III ☐

AUTHOR
Bish, John, Ed.; And Others

TITLE
Information Requirements for Planning Instructional Strategies: An Anthology for Teachers and Principals.

SOURCE CODE CXU13050	**INSTITUTION (SOURCE)** Central Atlantic Regional Educational Lab., Inc., Alexandria, Va.
SP. AG. CODE RMQ66004	**SPONSORING AGENCY** Office of Education (DHEW), Washington, D.C., Bureau of Research

EDRS PRICE 1.00;10.55	**CONTRACT NO.** OEC-2-7-062938-3058	**GRANT NO.**
REPORT NO.		**BUREAU NO.** BR-6-2938

AVAILABILITY

JOURNAL CITATION

DESCRIPTIVE NOTE
209p.

DESCRIPTORS *Data Collection; *Decision Making; *Information Sources; *School Administration; *School Planning; Elementary Schools; Classroom Observation Techniques; Community Involvement; Decentralization; Measurement Instruments; Classroom Environment; School Environment; School Organization; Staff Role; Teacher Aides; Urban Schools

IDENTIFIERS

ABSTRACT
The introduction to this anthology reports a study designed to develop a systematic procedure for gathering information from actual school settings about the impact of school organization, staffing, and administration on students--information to provide baseline data for decisionmakers. Included are description of methods and procedures, data analysis techniques, and specific objectives which included (1) selection, modification, and design of instruments for gathering data regarding students, teachers, parents, principals, and teacher aides, percepts of selected issues in the elementary school and instruments for making objective observations of classroom environment, and (2) gathering baseline information on one public and one nonpublic (one centralized and one decentralized) elementary school in urban, deprived environments. The eight chapters, each written by a specialist in the area of concern, present different aspects of the study: The Place of Objective Information in Total School Planning; Critical Information Requirements in the Management of the Elementary School; Analysis and Implications of Student, Teacher, and Parent Percepts of Student Performance; Professional Staff Encounters; Classroom Ecology; General Atmosphere for Administrative Autonomy: The Atmosphere for Decision Making; Three Views of the Teacher Aide; and Community Interest in Local School Management. (JS)

ED032292

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INFORMATION REQUIREMENTS FOR PLANNING INSTRUCTIONAL STRATEGIES:

An Anthology for Teachers and Principals

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CENTRAL ATLANTIC REGIONAL EDUCATIONAL LABORATORY

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Acknowledgments

Grateful appreciation for their expert advice and cooperation is expressed to:

> Dr. Martha Rashid, Professor of Education, The George Washington University, for her contribution in designing the original study upon which this anthology is based.
>
> Mrs. Lucille Boggan, Assistant to the Director of the Central Atlantic Regional Educational Laboratory, for her administrative support.

The editors wish to express their profound appreciation to Dorothy Jefferson, Jackie Konkus, Louise C. Rankin and Jane Simmons who typed, retyped and proofread the manuscript.

A special note of appreciation is extended to the students, teachers, teacher aides, parents and principals whose direct participation was vital to the success of the anthology.

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INTRODUCTION

John Bish, Albert Jenny, Frank Kovacs
Central Atlantic Regional Educational Laboratory

Lack of data for command planning

The severity and complexity of urban education problems have become so widely publicized that they may be considered common knowledge. The community's deep concern has resulted in many meetings attempting to deal with the problems involved in improving educational opportunities for learners in both public and parochial school settings. Such meetings have resulted in unanimous recognition of serious impediments to sound planning for future improvements. Chief among these is the lack of information concerning the operational realities of the school structure and function as they presently exist in the urban setting.

School planners require many different kinds of objective, valid and reliable data before they may even begin to aspire toward using any type or degree of cost effectiveness as the basis for making educational decisions. The urgency of using information as the basis for the decision-making process is generally not disputable. Ideas about the kinds of information requisite to decision making do vary, however, as do ideas about the unit to be used as the common denominator in any analysis of cost effectiveness.

Institution vs. process

Student as focus of planning

Community involvements

Many traditional studies of school organization, staffing, and administration have been static descriptions of organizational and administrative patterns with no visible relationship to education as a process or, to put it differently, to what actually goes on in classrooms. An obvious weakness of these traditional studies of organization, staffing and administration has been the dichotomy between education as a process and education as an institution. This dichotomy becomes even more critical as educational planners seek to develop theoretical systems, or models of these systems, which are practical enough to use in making decisions. The critical aspect hinges on the phrase "decisions for whom?" Will the basic unit of the model, the dependent variable if it is a research-oriented model, be the student? Only when educational planners consider the impact of organization, staffing, and administration upon students will we have the necessary relationship between education as a process and education as an institution. The charge of irrelevancy is loud and clear in current critiques of urban education. The charge that bureaucracy has created deep divisions between the communities and the schools which presumably operate to serve them has led to widespread discussion of decentralizing the administration of schools. In the contemporary push to change urban education, it is clear that school work must "turn kids on" and that parents must feel that they have something real to say and do about the education of their children. How can educational planners meet this challenge? The answers may not be clear at this point, but the question emerges clearly enough. How can educational planners make school programs more relevant to the needs of urban children and, at the same time, meaningfully involve the parents in the education of their children?

Perception and roles of pupils, parents and staff

Before definite answers can be given to this basic question, however, it may be phrased, empirical data descriptive of actual school settings must be provided for school planners. Given schools which are designated as centralized or decentralized, planners need to have information about what actually goes on in classrooms. Is there any relationship, for example, between the designation of a particular kind of administration and how teachers actually behave in their classrooms? How do the children themselves perceive the school setting and the work they do in school? What is the relationship between their perceptions and the actual situation? How do parents feel about the work their children bring home? What are the parents' perceptions of where control of the school should reside? When principals, teachers and aides get together, what kinds of decisions result from their discussions? How do these decisions impinge on actual instructional programs? What is the emerging role of teacher aides? How can they best function on a staff team? Is the principal an educational leader or primarily a business agent for the central administration? How do contacts of the central office with the local school unit feed into education as a process?

Empirical planning model must be based on effect on the young

All of the questions here, and many more, simply suggest that educational planners need as much information as possible, derived from actual school settings, before the vital issue of how education as an institution affects education as a process can be addressed. With some modest glimmer of reality on this issue, first steps can be taken to develop a planning model practical enough to be used to make decisions about the most effective ways to educate children in urban schools. The touchstone of the entire planning cycle thus becomes "How does this ultimately affect the development of children and youth?"

Project designed to describe educational milieu

The Central Atlantic Regional Educational Laboratory, in an attempt to develop a systematic procedure for gathering information to provide base line data for decision makers, designed a study which was directed toward the institutional milieu, and the actual and perceived patterns of describing instructional organization. The results should serve to develop an awareness of the salient parameters that must be included in future refinements of the model to facilitate systematic decision making. It is important that the data reported be viewed with the necessary parsimony. The restrictions of time and resources permit only a limited sample.

Ecology and multivariate analysis

It should be noted that the individual dimensions of this study are not unique; indeed teachers, students, principals, parents, and teacher aides have been observed and queried before, however, the authors know of no study where all of these areas were intensively examined in an elementary school, urban, deprived environment, at the same time. Essentially, the study of the ecological aspects of a classroom and the multivariate approach to analysis of the data derived from the classroom has only been possible since the advent of the computer. As with many other byproducts of technological innovation, the movement from univariate analysis to multivariate analysis has been slow.

Natural setting vs the laboratory

In the field of education as in all the behavioral sciences, a major concern has been the nature of the interaction of individuals and populations with the embedding environment, which supports, influences and determines limits of structure and function for the life that exists within its domain. Historically, it has been too costly and generally the management of the flow and organization of data has prevented the study of the ecology of school environments. The generic term representing scientific study of organism-environment interaction is ecology. The classical approach to research in the behavioral sciences, however, has been restricted to a single hypothesis or to multiple hypotheses with univariate statistical designs providing the results of hypothesis testing. Current emphases in psychology and the social sciences by advocates of the ecological approach are to direct research toward the position of multivariate field observation and experiment over univariate laboratory experiment as the methods of choice. In educational and psychological research the value of the laboratory as an adjunct to the field research station, to isolate, test, verify and replicate particular aspects of phenomena observed in natural settings should not be overlooked. Unfortunately, however, according to Sells (1966) "it has become orthodox policy in many university circles that the laboratory is supreme, that investigation without experimental manipulation of treatments and testing of hypotheses is unworthy of the term research, and that laboratory environments are preferable to natural settings." This view has been shown to be inadequate in education. At best, it has developed a gap between theory and practice, and, at worst, it has developed a cadre of researchers employing nothing more than pseudo-scientific research techniques.

Technical content of this introduction

Description of chapters

The following treatment of the specific objective of this study, its methods and procedures, and the data analysis techniques which were utilized is included for those who are concerned as much with the mechanics of this approach as with its findings. As in the case of similar sections in some of the chapters which follow, these technical considerations may be looked upon as reference material rather than as integral parts of the text. Brief descriptions of the following chapters conclude the introduction.

SPECIFIC OBJECTIVES

The major objectives of this study were:

1. To select, refine and design instruments for gathering data regarding students', teachers', parents', principals' and teacher aides' precepts of selected issues in the elementary

school, and to select and modify, as needed, instrumentation for making objective observations of classroom environments.

The five objectives of the study

2. To train staff in the gathering of selected data (e.g., student interview techniques, classroom observation practices).
3. To gather baseline information on one public and one non-public elementary school designated by their respective organizations as centralized and decentralized for given units of time on patterns of:
    a. instructional encounters
    b. staff encounters
    c. administrative encounters
    d. school organization
    e. teacher and principal task analysis
    f. student, teacher and parent percepts of student achievement
    g. student cumulative record and health data
    h. parent percepts of issues related to school organization and community involvement
4. To develop a set of procedures for studying the impact of patterns of administration and school organization upon instruction of elementary school children.
5. To gather baseline data on the real and perceived operational responsibility of teacher aides.

For the purposes of the study the following operational definitions were employed:

Definition of terms

1. Instructional Encounters: Activities which students are engaged in with professional and non-professional instructional or supportive personnel and instructional materials.
2. Staff Encounters: Activities which teachers are engaged in, with professional and non-professional instructional or supportive personnel and instructional materials.
3. Administrative Encounters: Activities which administrators are engaged in, with professional and non-professional or supportive personnel and instructional materials.

METHODS AND PROCEDURE

In order to accomplish the general and specific objectives of this research, it was necessary to obtain the understanding, cooperation and support of three major school systems in the region.

Cooperation by three major school systems

The Montgomery County Maryland Public School System agreed to provide one of the instruments used in the study as well as personnel training and training facilities for selected research staff members. CAREL and the Office of Research in Montgomery County agreed to cooperate on further development and refinement of the CAREL study. The District of Columbia Public School System and the Archdiocese of Washington agreed to support the CAREL research effort among the teachers and administrators employed in their school systems.

Specifically, the entire faculty of each of two schools, one non-public and one public, met with the CAREL staff on several occasions to discuss the purposes and rationale of the study as well as to participate directly in the refinement of individual instruments.

The administrators and teachers in both schools were particularly concerned regarding how best to increase parent participation. Parents were to be asked to give their views about issues related to the school in the community. Historically, parental response to queries of this sort had been largely ignored. Both principals and several of the teachers helped draft letters to parents which attempted to communicate the purposes of the study as well as the reason parental/community participation in the study was important. The fact that over 60 percent of the parents in one school and 80 percent of the parents in the other who were asked to respond to the questionnaires did so, is considered by the investigators to be one highlight of the study. A joint effort between CAREL and the schools resulted in parental involvement in school affairs in a way that had not been known in these communities before.

The sample

Involved in the pilot study were two urban elementary schools including 1062 students, 33 teachers, 2 administrators, 188 parents, and 17 teacher aides. In addition, data was obtained from a 25 percent random sample of public and non-public elementary school administrators and 91 percent (N=169) of all public elementary school teacher aides in the District of Columbia.

Nine instruments for five populations

It was necessary to develop nine separate instruments in order to obtain information from the five types of respondents contacted in the study. Students, teachers, principals, teacher aides, and parents completed one or more instruments.

DATA ANALYSIS

The kinds of data analysis employed in this study were designed to remain logically consistent with overall purposes and objectives.

Researchers in the behavioral sciences must assume a posture that encourages studies which focus on both process and product. There must be an accurate, objective description of observed behavior and the processes leading to the measurement of criterion variables so that replication and diffusion of the significant findings may be successfully undertaken.

The behavioral scientist working in educational research must view the educational environment as the biological or physical scientist perceives the laboratory. "The researcher on human problems has to proceed in an exploratory way, and he cannot rely on the technical terms of his parent discipline." (Sanford: 1965:657). The behavioral scientist must develop and describe action models. The manipulation of these action models and the analysis of the observed phenomena assume the same role in experimental design in the social environment as do laboratory experiments in developing theories in science. By studying the action models that are developed, the effects of the process and product may be assessed and hypotheses evaluated.

Cybernetics, learning theories, statistical design and dissemination

The effects of cybernatics and the second industrial revolution have reshaped the thinking of individuals and leaders at all levels of society. The significance of this revolution has many implications for future developments in the behavioral sciences and the evaluation of action models. The revolution will continue to affect the conceptualization of learning theories and models, the designing of statistical procedures for testing hypotheses, and the dissemination and field testing of concepts and action models.

Recent developments in computer applications in the behavioral sciences serve as excellent examples of the type of innovation to be expected. The application of statistical tools (e.g., factor analysis, partial and multiple correlation, canonical analysis, and analysis of variance) in the analysis of data by computer has created for the behavioral scientist similar opportunities to those which, until recently, only existed in the physical and biological sciences. Sanford (1965) has stated: "Modern technology, by means of the computer, techniques of information-processing and analysis, and so forth, is involved increasingly in such research, and the research methods approximate more and more closely the experimental methods of the natural sciences."

Tools are now available to design studies that enable consideration of all relevant factors. As Mood (1950:358) has pointed out:

> Most experimental work today is based on the rule:

Inefficiency of univariate analysis

> Keep all variables constant but one, an ancient and erroneous dictum which guarantees a high degree of inefficiency. One well-designed experiment taking account of all relevant factors is worth dozens of, even hundreds

of experiments which study one factor at a time keeping the others constant.

The problems associated with identifying and controlling the relevant variables, either within the experimental design or within statistical treatment, have historically plagued the behavioral scientist. It has been suggested by Royce (1950:295-303) that a proper order for research programs might be: first, to use a set of "prior" measures in a field of investigation, and factor analyze them to determine the basic traits and the sources of variance operating; second, to study these factors, one at a time, by various techniques of analysis of variance to determine how they vary among groups that differ with respect to age, sex, education, or other pertinent background variables; and, finally, to study them experimentally in the laboratory for specific groups under controlled conditions.

Factor analysis and analysis of variance

Fruchter (1954:3), in supporting this approach, recommends that the order may be varied. The ability to study both individual differences on a large number of measures (with factor analysis) and group differences on a single measure (using analysis of variance), over a series of occasions and conditions, has been made possible by the computational and statistical capacity of the programs now available to high speed computers. (Borke 1962:204-476).

Analysis of the data gathered for this study was facilitated by use of contemporary technology and current evaluation techniques in the construction of the statistical models to be analyzed. The recommendations of Mood (1950), Royce (1950), and Fruchter (1954) were used when deemed appropriate.

The null hypothesis

The logic of testing statistical hypotheses provides the researcher with the possible assumption that either the hypothesis is true or it is false. Frequently, however, the hypothesis that is tested is stated in such a way that, when the data tends to contradict it, the researcher is actually demonstrating what it is that he is trying to establish (the null hypothesis approach). In such cases the researcher is interested in being able to reject the hypothesis being tested (Winer 1962). This second procedure, that of rejecting the null hypothesis, was employed in all statistical tests used in this study.

As Winer (1962:13) has stated, "No absolute standards can be set up for determining the appropriate level of significance and power that a test should have." This position is supported by the fact that studies are not conducted in the best of all possible worlds. Rather, studies are conducted under existing conditions in the real world.

The researcher must be satisfied with the best design feasible within the restrictions imposed by the working conditions. The frequent use of the .05 and .01 levels of significance is a matter of convention. When the power of tests is likely to be low under these levels of significance, the .30 and .20 levels of significance may be more appropriate than .05 and .01 levels (Winer 1962:13).

The above rationale was employed in establishing the following criteria for the statistical tests which were used in this study.

Criteria used in statistical tests

1. The computed value was compared with the table value to determine whether it was significant at the .20 level.

2. If the null hypothesis was rejected at the .20 level then the .10 level was tested.

3. If the null hypothesis was rejected at the .10 level then the .05 level was tested.

4. If the null hypothesis was rejected at the .05 level then the .01 level was tested.

The statistical treatment of the data gathered on students was carried out at the Computer Centers of Clarion State College and The George Washington University.

Statistical programs utilized

The analyses utilized statistical programs which computed frequencies, percents, means, standard deviations, "z" test of proportions, chi squares, "t" test of difference between means for independent and correlated samples, single classification analysis of variance, Bartlett's test, analysis of co-variance, multiple correlations, factor analysis, and contingency coefficients.

Primary references used in the analyses and interpretation of the results were: Guilford (1965), Winer (1962), Ostle (1963), McNemar (1955) and Harman (1960).

Factors accounting for relationships

A comprehensive assessment of specific elements of the project design required the use of a variety of statistical techniques. Dealing with information conerning multidimensional behavior created a dilemma. There were many variables about which data were gathered. In order to determine the salient variables and reduce the complexity of the problem, multivariate analyses seemed the most appropriate for evaluation of effects on students. Simple correlational relationships are nearly always misleading. It is possible to use factor analysis to determine the basic structure of the variables used in the study. By using factor analysis with a set of correlations or measures of interrelationships of 50 to 100 tests, for example, it can be shown that as few as ten or less factors account for all of the relationships, and that each test is equivalent to a combination of several of these basic factors.

Another multivariate approach is multiple correlation and multiple regression. This involves computing the correlation between a dependent variable and a weighted combination of a number of predicting (independent) variables. This technique permits consideration of all measures simultaneously in relation to a given measure being predicted.

The two multivariate analyses, multiple correlation and factor analysis, provided information regarding any defined independent variables that correlated best with a defined dependent variable. An analysis of co-variance was used to determine the effects of each. The precise method allows for an uncontrolled (independent) variable and sets forth the sample error adjustment which is needed in testing the statistical significance of the difference between "corrected" means. The result of the use of this technique yields information regarding what the results would be if any two groups were made comparable with respect to the uncontrolled variable.

Treatment where variables influence the criterion measure

The remaining statistical models used provided descriptive and inferential interpretation of the data. In cases where the variables were known to influence the criterion measure, the groups were matched prior to the statistical analysis. When this could not be done, the comparisons were restricted to the use of descriptive statistics.

It should be kept in mind that this approach to the analysis of data, including all statistical treatments, was dictated by one of the overall objectives of the research design, to discover which of the data collected about each youngster would make the greatest contribution to the teacher's repertoire of information useful to her planning for a particular student. It is imperative that a wide variety of data about each student in the classroom be systematically collected, analyzed, and interpreted focusing on the student in the classroom as the unit of analysis.

BRIEF DESCRIPTION OF THE FOLLOWING CHAPTERS

Varied treatment in chapters

The eight chapters which follow present different aspects of the study in somewhat different ways. Each author has brought his field of specialization to bear on one facet of the study, the degree of technical treatment depending upon the nature of the subject matter concerned.

Chapter Two

Dr. C. Taylor Whittier, Director of CAREL, opens the study with a discussion of *The Place of Objective Information in Total School Planning*. He underscores the need for a fully informed staff in every school, and defines the concept of full information. Focusing on the educational experience of the student, such information must encompass institutional purposes and the factors which influence learning, and it must be continually updated in regard to each individual student.

Chapter Three

Sister Mary Virginia, D.C., Principal of Our Lady Queen of Peace School, continues with *Critical Information Requirements in the Management of the Elementary School*. Sources of information, both formal and informal, for decision-making regarding the child, the instructional program and the staff are examined. The relation between knowledge based on these kinds of information and the atmosphere the principal creates in the school is highlighted.

Chapter Four

Dr. Frank W. Kovacs, Associate Director of CAREL, follows with the first of the technical disucssions of particular aspects of the study, *Analysis and Implications of Student, Teacher, and Parent Percepts of Student Performance*. This chapter deals with the application of multivariate analysis techniques to studies of the learner emphasizing the ecological approach. The case history of a single student is presented to illustrate the method, followed by a description of the analysis of variance techniques used to estimate the reliability of the instrument. Factor analysis was used to identify six groups of students on the basis of their self-concepts and this process is analyzed.

Chapter Five

Dr. Dean Des Roches, Dean of Guidance and Counseling, Washington Technical Institute, presents the first of his two chapters, *Professional Staff Encounters*. The chapter describes the encounters among professional staff in the two types of schools studied, as to locus, frequency, subject-matter, and other surrounding conditions, in relation to the effect of these encounters on the decision-making process.

Chapter Six

Dr. Samuel M. Goodman, Director of Research, Montgomery County Public Schools, discusses *Classroom Ecology*, as revealed through use of his time-sampled observation instrument. In attempting to assess the relative effectiveness of instructional strategic and learning environments, educational research groups need to take detailed note of the existing patterns of behavior in and about the classroom at a given time and place. The role of the time-sampled observation instrument in producing these needed data is fully documented, and the basic accomplishments of a number of studies in which its usefulness was demonstrated, are presented to the reader.

Chapter Seven

Dr. Arthur Kirsch, Associate Professor of Statistics and Psychology, George Washington University, follows with a chapter on the *General Atmosphere for Administrative Autonomy: The Atmosphere for Decision Making*. The demographic background of principals, the characteristics of school populations and teaching staffs, school programs and the school environment, as reported by both public school and non-public school principals, are reported and analyzed. This chapter is another of the more technical ones in its later sections and includes an appendix on sample estimates and confidence limits.

Chapter Eight

Dr. John Bish, Director of Projects on Staff Utilization, CAREL, writes on *Three Views of the Teacher Aide*. The discrepancy between the teacher aide's own percept of his role and the percepts of teachers and administrators regarding it is highlighted. Eight categories of teacher aide activities are examined in this respect. Principals and teachers were found to be in agreement as to preferred roles for aides. The problem of aides acting as substitute teachers is discussed and nine questions regarding the teacher aide role are raised.

Chapter Nine

Dr. Dean Des Roche's second chapter, *Community Interest in Local School Management,* describes an attempt to elicit the feelings of parents in both types of schools regarding community involvement in the schools. The role of centralized administration in making communication between parents and school difficult is brought out, and the rekindling of layman concern in the educational process is considered as a consequence and challenge.

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CHAPTER 2

The Place of Objective Information in Total School Planning

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Short term and long term planning is an accepted process in any school system. The problem, however, is one of providing the staff to do this job and the information to make it meaningful. Such information needs to focus upon the institution's purpose which is to provide an appropriate educational experience for all students. The total effect of the educational program on the development of each student must be measured. Those responsible for decision making at each level within the school system need to have information developed within a framework based upon the factors which influence learning. To do this requires the continual collection and updating of data in a format which will provide the classroom teacher with specific, timely information about the individual students and those serving other roles in the school system with the kind of information which is required for their level of decision-making.

PLANNING BEHAVIORAL OUTCOMES

Educational planning is predicated upon certain assumptions and requirements which are basic to the determination of the outcomes which the institution hopes to achieve. The more specifically these can be stated, the greater is the hope that members of the organization will receive guidance from their presentation and will be able to use them as a basis for determining the degree of their achievement.

Need to state objectives specifically

The ability to express the actual and desired types of student behaviors in specific terms with the hope of developing a more effective means of evaluating progress and achievement is certainly one of the goals of education. In the eyes of many practitioners, this poses a challenge both as to whether all behaviors which are desired can be expressed in specific terms and secondly whether appropriate instruments can, in fact, be developed to provide meaningful information.

Comprehensive planning includes evaluation of the educational process

A comprehensive planning function includes in its scope of work a provision for the evaluation of the effectiveness of the educational process and this, in itself, is a threat to staff which cannot be overlooked and which mitigates against the acceptance of the planning function in a school system. More, commonly, the planning function is interpreted as performing a more limited role.

Value systems influence decision makers

Comprehensive planning requires as clear a determination as possible of the value systems inherent in the organization because these in turn determine the actions of the decision makers within the organization and of those individuals outside the system who are being served by the system, as well as others who are more remotely related to the school operation.

In the long run, planning should relate to national and state goals as well as local goals. Contradictions need to be identified and resolved or at least minimized and accounted for at the planning level. Such resolution is necessary if a clear-cut instructional program is to materialize at the individual student level. In our society this resolution process poses many difficult decisions both theoretical and practical. But part of the criticism now faced by the schools has developed because of contradictory values competing for supremacy and because the decision makers have not found an effective means of reconciling, explaining or adjusting to such differences.

Even assuming that all contradictions cannot be effectively and completely resolved, these differences nevertheless need to be consciously considered in program development. It would be helpful to determine in as great detail as possible the areas of differences and areas of agreement. In a pluralistic society the planning function needs to consider the variety of goals and the degree of importance attached to each goal. Flexibility must be maintained as the relative importance of the goals varies between segments of society at any given time and also varies over time. The day to day practitioner is confronted with decisions which ultimately determine the effectiveness of the educational experience for the students. How then to reconcile these differences as they affect the decision making process at each level in the system so a meaningful program evolves is a challenge facing education and, of course, failure to reconcile them will be the basis for many of the problems leveled at the school program.

To determine the characteristics of the instructional environment in an objective manner is a necessity for each school. It is also necessary to incorporate an appraisal system with periodic reporting as the forces bringing about environment change have an opportunity to produce results and, therefore, require reappraisal.

Goal resolution important in planning

There still remains the question, even after collecting pertinent data in an adequate and timely manner, of how to translate such data into helpful information to change the learning process. Unless the goals have been already stated and understood, it is difficult to formulate the data in useable form. It further cannot be assumed that individuals without special experience or training and without an attitude of curiosity are going to be effective in using data just because someone presents it to them. So one of the basic steps following the development of effective planning, including a method of assessment, is a continuous staff development program. Such a program will require an understanding of the meaning of the information as it can affect student growth and development. Those responsible for schools will have to recognize that various changes will, of necessity, be required. In any large system, it becomes difficult to be sure that individuals responsible for decision-making at each level receive the same message and interpret it as intended and, therefore, make their decisions based on the available evidence related to the achievement of the established goals.

The data used throughout this particular study is presented (recognizing the limitations of the size of the population sample) because it illustrates some of the kinds of information which a school system needs to consider within the confines of its own operation, and because this is the kind of study which can be conducted by a local school system on a periodical basis.

PLANNING TEACHING METHODS

One of the problems facing those responsible for the educational program is trying to determine the attitudes toward the student's learning which is evidenced by the student, the teacher, the principal and the parent.

When one considers the possible effect of the attitude of the various adults who influence an individual student's learning, it is interesting to note, as a result of this study, some factors which need to be more clearly evaluated than is characteristically done today.

Perception of individuals affecting student's learning environment

An individual example selected from the study showed that in relation to an individual student's achievement, his own perception of his own achievement, the perception of his classroom teacher, and that of his parents were different. The student perceived his achievement in a far more positive manner than did the others. His teacher's perception was the next most favorable, followed by that of his parents. This student saw himself currently as almost best in his class in three of eight curricular areas listed and very good in four others. He saw himself as above average in sports. For the next year, he thought he would be almost best in his class in six out of eight areas, rating only sports and arithmetic as very good. On the other hand, his teacher did not see him as almost best in the class in any of the areas, either currently or for the next year. His teacher rated him as currently very good in six of the eight areas, with above average in arithmetic and not so good in talking in front of the class. There was no prediction by the teacher of improvement or regression in any area for the next year.

His parents saw him as about average, right now, in six out of eight areas with a not-so-good rating in science and talking in front of the class. However, next year they felt he would be about average in all areas. For a more detailed explanation of these data see Chapter IV.

The teacher needs to understand these variations in attitudes to plan more effective methods of promoting this student's learning.

Homework is an old question for discussion in educational circles. The indirect as well as the direct effect of homework should be considered. It was found that this student felt he should always help his teacher plan his homework but that he never was permitted to do so.

The school may create alienation between parent and child

In another situation it was found while working with parents in a local inner-city community that homework assignments were one of the sources of alienation between the parent and child. Because the parent was unable to help the child and the homework therefore was not done satisfactorily, and because the teacher berated the child who did not do it well, the child felt his parent was at fault. Thus the school became a divisive influence in the life of the family.

Too often the same teaching methods are continued after conditions change, with no new appraisal as to whether the practice remains appropriate. A survey focusing on teaching methods from time to time can serve to raise questions about current practices which may not otherwise even be questioned. Through this technique the situation can be studied with less threat to the teachers involved.

The test of a teaching method needs to be developed in terms of individual student responses. The data then need to be placed in the teacher's hands and should be presented in terms of the individual student so that proper adaptions or changes can be made. Of course, the results should be provided promptly if the teacher and student are to benefit from the effort.

Actual teacher time distribution in the classroom is one type of information needed

One bit of evidence which can be collected is how much of a teacher's time is spent in various activities. The survey instrument used in this study provided data to describe how the teacher distributes his time among talking, listening, writing, and demonstrating. The way in which the teacher's time was spent with the whole class and with individuals was determined in the study. It also provided evidence as to the distribution of the teacher's time among the several subject areas. Such data can be used in assessing time distribution as planned by those who prepared the curriculum, the degree of success achieved by the students, and the influence on the curriculum of the actual situation in the classroom.

PLANNING CURRICULUM

One of the difficult jobs in curriculum development is to determine in specific terms the desired goals for each subject area so that methods of evaluation can be prepared based upon the agreed-upon goals. Long have those in education claimed that many good things result from the curriculum which cannot be evaluated and that not all items can be or in fact should be so identified.

Curriculum goals should be related to the degree of achievement and time of direct exposure

Individuals involved in curriculum development need to identify in as clear terms as possible the hoped-for goals. Goal statements should be expressed in terms so that it is possible to ascertain the degree to which the students in fact do achieve them as well as the amount of time required in the process.

Since the time available for the schools to work with students still remains fairly constant while the volume of knowledge increases, it is apparent that a higher degree of selectivity must be exercised in choosing the phases of knowledge which will be used with the students. One result of this selective process is to create a larger group of individuals who are unhappy with the particular selection. They in turn swell the ranks of those who are critical of the school. The planning function should question the present length of the school day and the length of the school year. Alternative plans need to be developed, tried out, and evaluated in terms of student achievement, the effect on the cost of school operation, and the effect on community organizations as well as on the formal and informal practices followed by parents and other adults.

Individualization of instruction allows for more student options

As the schools move toward more individualized instruction some of the criticism will be reduced because there will be a greater number of options available. Individual student choice rather than teacher choice can become more common in the selection of many specific subject area tables. Common desired learnings can be achieved by students using different bits of knowledge, so that by providing freedom of choice the learning process can be improved. This greater flexibility reduces some of the pressures built up with the expansion of knowledge. It also complicates the life of the teacher who must learn to live with students who have greater knowledge than he has in certain areas. The teacher must provide a greater variety of materials and sources of contacts for the students than under a single type of presentation. The encouragement of individual exploration is a valuable quality which increases teachers' effectiveness.

In order to better understand this process, it is necessary to secure additional data about the amount and type of exposure that has been provided to each student by the school. The amount of time spent in individual and group presentations and in individual study of each subject must be determined. For example, in this study it was found that 36% of classroom time was spent on Language Arts (reading, spelling, word study), while 13% of classroom time was spent on arithmetic. During the ten-day observation period covered by this study it was found that no time was spent on science, foreign language, or library skills.

Following the presentation of such data it becomes possible for the teacher, principal and curriculum worker to review the facts and determine whether they are in accord with the planned program. If they are not, the data provide evidence on which to plan a different time distribution. The next step, of course, is to relate these quantity measures of exposure time with a student's level of achievement.

Such data need to be correlated with other factors in a framework which provides an understanding of the student's background and a knowledge of the community environment in which he lives.

PLANNING STAFF AND CLASS SIZE

Traditionally a fully qualified teacher with a small group of children has been the ideal goal of those responsible for determining the staffing patterns used in the schools. More pertinent data need to be secured about the problem of the ideal class size versus the increased cost of reducing class size. The assumption that smaller classes result in the use of different teaching methods is not valid. From a practical point of view many districts face the problem of securing enough qualified teachers without trying to reduce class size. The cost of providing more classrooms to permit reduction in class size is a very real limiting factor.

In today's urban centers many teachers are viewed as "outsiders" by those living in the community served by the school in which they teach. To overcome this alienation between the school staff and community, individuals have been brought into the school who are residents of the local community with the thought that they could better explain the school's concerns to their friends and perhaps interpret the community's ideas to the school staff. The introduction of untrained persons into the school has raised the question of whether professional or lay persons are most competent to deal with the students and what should be the role of each individual.

Role of the teacher and aide

The teaching process is being studied to try and determine those activities which require a professionally trained person and those which can be done by someone else. The lay employees have been called aides or para-professionals. They have received little or no training in preparation for their work. Also little orientation has been provided for teachers to help them work effectively with a non-teacher who shares some duties which have been traditionally the sole responsibility of the teacher.

One phase of the current study included a consideration of the services provided by aides. It is to be expected that aides can cause problems as well as solve problems. The teachers felt that aides were generally helpful. In this study there seemed to be a difference between the perception of the aides and that of the professional staff as to the aides' preparation before being assigned. In one school it was found that the principal and teachers did not believe the aides had received any training before being assigned. Yet of five aides assigned to that school, all but one reported having had special pre-service training for periods ranging from four weeks to three months. Specifically, the aides reported having some training in the operation of audio-visual equipment, making materials, studying how children learn, child development, and in orientation to the life of the school. None reported training in helping parents or how to work in the community. Only one of these aides was planning to become a teacher. Instructions given to aides often suggest that they should not substitute-teach. Yet this suggestion is one which is subject to different interpretations.

If the aides relate well to the students, their service might be more valuable than those of someone coming into the classroom who does not know the students, the community, or the material. Also the students feel some sense of responsibility to the aide because of prior contact and the need for later contacts. It seems desirable to plan some part of the pre-service training as an experience in team work as it relates to promoting the learning process. Individuals might well serve as aides during their high school and college years while pursuing their education for a teaching position. The development of a career ladder providing upward vocational mobility can be one of the values to be derived from the aide program. If it is started in high school more individuals may be encouraged to continue their education, although many may not decide to do so. The position of aide will become the career choice for many persons who find in this work a very satisfying role.

Aides can be selected in part because they understand the community and in part because they love children. This latter quality can at times compensate for its lack in some teachers. The developing of a team approach to education should consciously take into account the formal and informal qualities of all of the individuals involved. Such an effort is very difficult because of the mobility of staff and the difficulty of identifying many of the qualities needed by those working with the students.

Task performance by aides

A review of the kinds of tasks performed by the aides as reported in this study shows a wide range in their level of difficulty. The aides relieve the teachers of certain routine tasks like collecting money and helping children with wraps, while other tasks directly affect the learning process such as playing listening games with students, reading and telling stories to small groups, and helping students with practice work given by the teacher.

Some aides might well be classified as a first level teacher with the present teacher classified at a much higher level. Thus all the adults working with the students would be viewed by the students as teachers, some more senior than others. The important aspect of this study is that it can serve as a basis for studying the role served by various individuals, a role which may change in practice from the earlier role identified when the position was first created.

Staff organization with director of instruction and support teachers

Measures of the degree of success of the students under different organizational patterns of staff should be planned. taking into account the unique characteristics of the individuals involved. Such a study can serve as a basis for discussion and planning for future use of various adults in the teaching situation. The highly qualified teacher may well become the director of instruction for a group of students, who provides for the expert diagnosis of the learning needs of each student and identifies next steps for each individual. Such a director of instruction could oversee the planning procedures but would have staff support for their execution. A training program would need to be developed if such a plan were instituted. The program would need to take into account the mobility characteristics of the individuals involved. For example, the aides who came into the program after the training sessions in August received no training, just as teachers who arrive late generally do not participate in an orientation program held before the opening of school.

Class size in this team arrangement would lose its significance compared with the present situation. It would seem that students may well need to be in groups of different size depending upon the particular learning situation. With the team arrangement this might be accomplished.

One advantage of a survey of classroom practices is to permit the staff to discuss with some objectivity their present program and provide some data for developing alternatives which might be tried. Later the survey can be conducted again to see whether there is in fact a change resulting from the study effort.

ADMINISTRATIVE PLANNING

Pla-ning needs to be focused primarily on the individuals served by the system but must also take into account the individuals employed in the system and should not allow administrative convenience to become the controlling factor. It is at best very difficult to relate the many contradictory forces in a system with the attainment of the stated goals.

Compatible value systems promote action

The value systems of the various individuals and groups within and outside of the institution are often in conflict and are too seldom taken into account in any planning effort. While it is very difficult to identify differences, it should be possible to employ individuals who more nearly hold compatible values if the desired goals can be clearly stated and used and if employment practices can be made flexible enough. While individuals controlled by contradictory values can under certain circumstances produce new ideas and courses of action, they can also immobilize the decision-making process and help to create the image of unresponsiveness which is too common today.

If the reward system in the institution were organized to promote the attainment of the desired goals, this would provide a strong incentive to bring about change or at least would build support for the enunciated goals. The reward system generally discourages change, experimentation and independence of thought. In fact, it is at times in conflict with the attainment of the program goals set up for the students.

The purpose of the administrative function is to bring diverse forces together into an effective pattern, to get all of the individuals involved in decision-making and decision-execution to perform their jobs in a way which will promote the educative process.

One way to accomplish this is to provide a common basis of vital, timely data which all can use. While there would be differences in interpretation and application, at least the decision and action could be evaluated against a common set of goals.

Conflicting priority lists of concern

The individual's feeling of urgency to complete a task sets up his individual priority list of concerns which may be in conflict with a similar list of others. Hence the resultant road blocks to action.

The need for long range institutional goals to be developed with conscious consideration of national, state, and local policies would seem evident. The possible relationships need to be evolved with wide staff and community participation.

Such participation, if it is to be effective requires that the individuals involved have a common base of essential data. Relevant data must be provided for all levels in the decision-making process. The teacher needs data which will indicate the progress and identify the problems of individual students. This information needs to be related to the total learning environment affecting the student. While there are common elements for all students, all students are not affected equally by these elements and each student experiences unique influences which may be stronger than the influence of the school. As was found in the current study, there are differences in how individuals involved in the learning process view a similar situation. Such differences in interpretation of data exist throughout the organization. If basic information focuses upon the factors which influence learning and is made available to the teacher, principal, supervisor, director, superintendent, board of education, and the public in a format appropriate to the needs of each, the resulting decisions have a chance to be related to the basic purposes of the institution.

The principal's role in shaping the educational environment

The freedom of choice of those at each level and the degree of authority exercised over the decision-making of others needs careful analysis. In studying this problem the current survey considered a scale of Autonomy of Independence of Action for the Elementary Principal. This was aimed at evaluating the effect of the principal on the learning process. What freedom does the principal exercise in changing the learning environment? The factors considered ranged from decisions on selection of supplies and textbooks, to authority to change curriculum, and to select and transfer staff. This situation also raises the question of what evidence the principal has upon which to make decisions, what are the implications of his decisions not only within one school but in the total system, and how he can be held accountable. The planning function needs to take into account not only the appropriateness of when to make which decisions, but also the factor of responsibility and how it is to be determined.

Increased participation through local control over the schools

One area of planning responsibility must concern itself with the desire for participation which comes from individuals in the community. One of the obvious types of response which appeals to those outside of the school system is action to reorganize the individual school or to group schools in a system under the popular term of local control of schools. This control may be exercised by sub-districts of the larger district or by the local community or as a partnership between members of the local community and professional staff. This is to be contrasted with the drive over the country for the past several generations which has been to consolidate schools into larger population groupings, so that the advantages which come from a larger fiscal base as well as a larger pupil population base can be realized. Of course, as this occurs and as it has occurred in the larger school systems more quickly, the individual tends to feel that his particular needs and desires are lost.

The issue of effective involvement of any member of any given school system, large or small, as well as their involvement of other individuals in the community has certainly not been effectively answered. Actually what control means in the total school operation becomes a matter of serious concern and requires careful consideration to avoid being a source of confusion. Not all boards of education actually have complete control over the factors that are needed to achieve the educational goals of a particular school system. Part of the struggle is in trying to decide who is responsible for the determination of goals and for their achievement in a particular school.

The assumption that dissatisfaction with the present system will be eliminated through a structural reorganization remains to be demonstrated. Whether such change significantly improves the life of a pupil by changing the educational requirements, opportunities, attitudes or parental involvement is still subject to study (Whittier, 1969).

STRUCTURAL PLANNING

Development of the physical plant is one aspect of the planning process which involves long term decision-making and which can improve or inhibit the learning process. The school design has traditionally been of the egg-crate type, determining as it does the maximum class size and teacher load. Recent changes provide for a maximum of open space, which is a more reasonable solution since one cannot anticipate the specific needs of future generations.

The school plant helps to create the learning environment

The effect of the physical environment on the learning process needs to be taken into account when planning such matters as climate control, the use of color, and the relationship of one building function with another. Flexible space for the grouping of students in different sized units and of areas for the preparation of materials by both students and staff increases the availability of instructional options open to the teacher. Open space is the characteristic feature of current designs. Planning today considers the school to be part of the total environment of the student and others in the community, rather than an insulated institution. Education is thought of as taking place throughout the community and not just within the walls of the school. The utilization of a broad spectrum of human and physical resources requires that plant planning incorporate many factors which have not been deemed necessary in the past.

Again the question needs to be asked as to what influence this has on the learning process. One of the schools used in this study is a building over forty years old with no major renovation within the last twenty years located amidst low cost homes. There are no public libraries, museums, or concerts readily available to the students in the community. No cultural programs nor after-school activities are conducted in the school. The building is not used for any form of adult education. Unfortunately this description is not the exception but rather the rule in too many center city schools.

There can be little question of the depressing influence of this plant on both the students and staff. It is difficult to recruit staff to serve in such a building as evidenced by the fact that just over half of the twenty-one regular classroom teachers are fully certified. While there are some individuals who would contend that those working in the building should rise above the depressing effects of the environment, the fact remains that the school offers no more hope to the students than does their home environment.

This plant does not serve as a community center, which reduces the value of the school as a force in the lives of the adult population. Thus part of the potential of the school is lost.

The school plant must be planned to serve the total community

The value of these broader services needs to be related to the overall goals of the system and the decision of how best to achieve them. The decisions required to improve educational opportunities must deal with all facets of the program and community needs and the means used to implement them in practice.

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CHAPTER 3

Critical Information Requirements in the Management of the Elementary School

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The elementary school principal is called upon to make decisions constantly in the management of his school. These decisions involve many aspects of the total program. However, three areas are of utmost importance: the child, the instructional program, and the staff. In making these decisions the principal must cull critical information from varied sources. In the area of the child the information may be obtained from formal studies, testing, sociograms and many other records and reports as well as informal conversations with school personnel, with parents, and with children themselves. Accumulated information helps the principal make quick, on-the-spot decisions when necessary. Regarding the instructional program, the principal bases his decisions on philosophy and objectives, in-service ideas, the finances available, the curriculum already in the school, teaching-learning materials, special resources of the community, and ideas generated at staff meetings. Finally, decisions about the staff must come from his knowledge of each staff member as gleaned from records and observations, and must be related to the manner in which the principal shows acceptance and recognition of strengths, or selects the in-service help needed and the teachers who are to perform extra-curricular activities. The atmosphere the principal creates in the school springs from this knowledge and from effective decision-making and throws light on the amount of guidance to be given to an individual teacher. Hence, the principal needs a constant flow of information if he is to make wise and practical decisions in the elementary school of which he has charge.

Decision-making and information

Every day, every week, every month and for long-range planning the elementary school principal faces the challenge of constant decision making. This decision-making has many facets, placing the principal in the role of educational leadership, and requiring him to update, modify, revise, or completely alter existing structures.

Change demands effort. It may cause some anxiety that must come at probing the unknown or unfamiliar. Justifiable and desirable change, however, is essential to any profession that expects to keep pace with a rapidly progressing society. Education has no choice, which

> means the educator has no choice, no alternative, when society thrusts him into a leadership role.
>
> (Dufay 1966: 204-05)

That he may make wise decisions, he must have a constant supply of objective information from many and varied sources.

Areas of decision making

The principal deals with many areas in the management of the elementary school. Of these many areas, the children, the instructional program, and the staff prove of prime importance and so this paper will limit itself to these three areas. It will raise certain questions, such as: How does the principal gather information in the areas mentioned above? How does he evaluate this information? Are the decisions he reaches practical and practicable? What are the risks involved? These and many other questions which come to the mind of any principal as he seeks to discover the needs of the children in his school and the ways to fill these needs will be presented to the reader.

INFORMATION ABOUT THE CHILD

Importance of the child

The child is the heart of the elementary school. All planning done by the principal and/or the staff revolves about him and involves him in some way: the instructional program and the kind of personnel selected both evolve, ideally, from the knowledge of the child in each particular school.

> Over a period of time, the scope of education has been extended to include concern for the child and his total adjustment. Educators have recognized that a child must have good physical and mental health as well as good social and emotional development if he is to learn to the optimum of his capacity.
>
> (Misner, Schneider, Keith 1963: 248)

Sources of information

How does the principal gain this knowledge or information? It would seem that the sources of this information could fall under the headings of technical, informal, and intuitive. Some technical information comes from formal studies and testing. For example, our office of education requested that each elementary school of our area conduct a self-evaluation. The office supplied forms to cover a multitude of areas, one of which was the School Community Blank. The teacher-chairman of the School Community Committee developed a questionnaire which brought in a wealth of information about the socio-economic level of our school population, the education of the parents, their occupations, their travels, their aspirations for their children, etc. The principals, as well as the teachers, in these schools gained invaluable insights into the backgrounds of the children with whom they were working.

The "IQ"

In several localities, getting the child's "IQ" has become taboo, but need this be? Placing too much importance on individual IQs may prove harmful, but computing a median IQ for the school still gives the principal some idea of the intellectual ability of the entire student body. Furthermore, if he analyzes the IQ range for several years in succession and consistently discovers very few scores in the 120s and very many in the 80s, he certainly can use this information with some degree of confidence when planning the instructional program.

Analysis of test results

Critical analysis of standardized test results demonstrates to the principal how effectively the instructional program and/or the staff are functioning in reference to the child's progress in school. If the analysis discloses, for example, that the children in his school fall, as a whole, one year below national norms in arithmetic, the principal must find some valid explanation for this, or seek ways to modify the arithmetic program in order to bring about different results. Should he decide on the latter, individual test scores will serve as one of the bases for better grouping and will point up individual strengths and weaknesses.

> It is the rare school system that does not accept, at least theoretically, the principle of individual differences; anyone associating with groups of children for a number of years realizes that boys and girls are not born with identical traits; and the longer they live the more different they become, as home and early school training provide opportunities to learn.
>
> (Misner, Schneider, Keith 1963: 206)

Seeing these differences graphically in test results proves a great aid in curriculum planning.

Records and Reports

Sociograms, psychologists' reports, cumulative records, health records, the reports of the speech therapist, and many other records and reports supply the principal with volumes of technical information about each child in his school. He has only to find practical and creative ways to use this information for the growth of each child.

Conversations

Another source of information just as important is that which the principal gathers informally simply by talking things over with teachers, with parents, with the school psychologist, with the school nurse, and with the children. These conversations need not be lengthy and overly time-consuming. If the principal shows authentic interest, others will provide worthwhile information.

Some of these bits of information may include facts such as: Mrs. Jones went back to work; this means that the Jones children's school work will suffer as it did the last time their mother went back to work. Or: Mr. Smith left his family last weekend; Mary's mother told her last night that she was adopted; Jane's mother went to the hospital. How will these happenings affect the children and their learning ability? A teacher may discuss some difficulty she is having with a student; another may enthusiastically describe a current project involving her class. The psychologist may comment on the teacher's general attitude toward school discipline. A visitor may comment on the atmosphere of the school. A parent may discuss a family problem which throws much light on a particular child's lack of progress in school or his difficulty in relating to other children. Children's strengths, weaknesses, interests, motivation, attention span, self-direction and many other qualifying descriptions of behavior are related to the principal informally.

Children often come to the principal with information also ranging from: "My dog had puppies last night!" to "I'm doing a science project on the systems of the human body." These disclosures reveal to the principal something about the atmosphere of the classroom or an attitude toward the school, or the child's lack of ability to relate to his peers, etc.

Intuition

This leads, finally, to the third source of information, the intuitive source. Scientifically, this source may not have backing; however, when the principal becomes "saturated" with technical and informal information about the children and when he has learned to really see and listen and to pick up nuances to which he formerly would have been oblivious, he develops a kind of sixth sense.

For example, on a particular morning a Mrs. O'Brien may walk into the school office. The principal sees that she is well-dressed and so on her way to work (the last time, she came dressed casually on a day off); the expression on her face spells danger; she has her son, Peter, with her who is trying very hard to look nonchalant. The principal remembers: Peter's home-room teacher had punished him yesterday; reports of Peter's conduct had come to the office from other teachers, from student counselors, from mother-helpers and from the school psychologist; Peter's last year's teacher had serious problems with him; Peter has shown an average intelligence quotient on tests but has scored a year to two years below grade level on standardized arithmetic and reading tests; he has never been able to really apply himself in school. Mr. and Mrs. O'Brien complain bitterly that Peter is treated unfairly by teachers and students. All this information flashes through the principal's mind in a matter of seconds as he sits down with Mrs. O'Brien to look for some possible solutions to Peter's problems.

This sixth sense, impossible to define or analyze, serves in good stead when quick, on-the-spot decisions must be made.

A veteran principal has experienced this; a beginning principal is groping toward it.

INFORMATION ABOUT THE INSTRUCTIONAL PROGRAM

As the principal gathers information about the children, he simultaneously and automatically relates this information to the instructional program, in such areas as philosophy and objectives, in-service growth, finances, curriculum, teaching-learning materials, special resources, and staff meetings. If the children consistently score below norms on standardized tests, if IQs consistently show large numbers of children with low scores, if teachers constantly and sincerely bring out specific learning problems, if he himself observes learning difficulties, the principal cannot but make use of such information in setting up the instructional program.

Philosophy

However, before beginning any serious work, the principal must somewhere along the lines have worked out his own educational philosophy to which he is firmly committed, which he may modify only when objective information obliges him to do so, but which serves as the concrete groundwork for his decision-making regarding the instructional program. In connection with the philosophy, does he believe in individualization, in nongradedness, in group teaching and/or learning? Is any one of these possible or should they be combined? What is really practical in this particular school knowing the children, the parents, the staff, the physical setting, and hundreds of other factors? In reference to this notion of practicality, John E. Dawson expresses the following viewpoint:

> What the principal should seek is the best possible school program in response to real and explicit needs within real constraints. To design the program for the school population one would like to have (but doesn't have) and without regard to a realistic assessment of constraints is a form of idle speculation and of little assistance to the community, school board, teachers, or, most importantly, the children. Groping with explicit needs within existing constraints is the task of management, and progress can occur only through systematic thought.
>
> (Dawson 1968: 68-69)

Unless the principal custom-tailors the program to suit the children and existing facilities, he is wasting his time.

Besides the basic philosophy to which he is committed, the principal must have a constant flow of ideas to keep his thinking alive. These ideas come from many directions, the most

Flow of ideas

important being reading, workshops and meetings, and discussions with teachers and other principals. In this way, the principal keeps abreast with the best developments in the field of education and so is in a position to experiment more intelligently in his school.

Sometimes, taking part in an experiment or a study results in the professional growth of a principal. Reporting an experiment on the teaming of principals, Anastasiow and Fischler explain that one of the results of this experiment was that the principals involved became much more concerned about their professional growth.

> They read more, listened more, considered seriously their roles in the current avalanche of educational innovation and change. They became aware of their need for further academic background and pursued this through university and college courses as well as at professional conferences and meetings.
>
> (Anastasiow and Fischler 1969: 4:22)

Involvement and enthusiasm on the part of the principal serves as motivation for personal professional growth.

Looking ahead into the future at elementary administration also helps the principal decide how to grow professionally. McNally believes the principal of the 1980s will be "expected to know considerably more than his 1960s' counterpart in the fields of behavioral sciences, such as social psychology, sociology and political science. The areas of urban sociology and cultural anthropology will be of critical relevance to the urban school he administers" (McNally 1968: 90). The in-service growth of the principal becomes a rich source of information in decision-making.

Finances

Finances and financing play a great part in the kind of instructional program that is set up. How much money is the principal allotted; how free is he to use it? Can he order materials quickly and directly, or must he go through some long drawn-out process? If he finds materials that would be just what is needed to help a primary group struggle through a difficult math concept, he wants to order the materials now. Should he have to requisition these materials through some central office that may take months to procure them, he may well give up the idea before placing the requisition.

In our school the financial allotment is low, but there are practically no restrictions on how the money is spent. This leaves the principal free to purchase what he and the staff believe most practical and also to get materials quickly when a particular need arises. On the other hand, since qualified and sufficient personnel are vital requisites to an effective instructional program, a strained and limited budget proves a severe handicap. When the principal is limited in this area, he must be satisfied with doing less for the program than he wants.

The school curriculum forms the basis for the instructional program. Goodlad and Anderson convincingly state the place of the curriculum:

Curriculum

> The curriculum is the heart of a school's program....The curriculum is more, however, than the learners encompassed by it. It is the scheme whereby an institution fulfills its educational responsibilities to these learners. This scheme includes purpose, content, and mode. In a good curriculum the relationship among purpose, content, and mode is carefully planned, since all three are interdependent. Decisions about purpose directly affect the selection of content, which in turn bears on method.
>
> (Goodlad and Anderson 1963: 79)

They also stress the fact that it must be tailored to the children and not vice-versa.

Usually the curriculum is set up centrally by the office of education and sent to the schools under its jurisdiction. The principal familiarizes himself with his curriculum and seeks to actualize it in the instructional program. On the other hand, he must ask himself how possible is it to actualize this curriculum? For example, the social studies curriculum may include texts with a reading vocabulary too advanced for most children to grasp. Or, the greater number of fourth graders in this school are not ready for certain arithmetic concepts included in the arithmetic curriculum. Also, the principal is convinced that the children need sex education classes, or that they should learn basic concepts of psychology. Can these be included in the curriculum? He must get much information from a great variety of sources before deciding. These sources would include his superior, the parents of the children, the information about the children which he already possesses, the reactions of teachers, the availability of funds, and of suitable personnel, etc.

All kinds of business enterprises have literally flooded today's educational market with teaching-learning materials of every shape, description and price. Trenholme and Turville point out that:

Teacher-learning materials

> The elementary principal should be deeply concerned with the introduction of better materials

> and should keep himself abreast of current offerings even though finances are not immediately available.
>
> (Trenholme and Turville 1968: 59)

Nevertheless, the principal must also realize that each day's mail brings to his desk a sample or a description of a kit for science, a reading laboratory, manipulative materials for presenting math concepts, the controlled reader, the Craig reader, the language master, the transpaque projector, the 8 mm projector, or names of equipment he never heard of before. He is urged to invest in listening stations, tape recorders, tapes, filmstrips, film loops, movie cameras, televisions, ETV programs, computerized instruction, the videocorder. As he views the myriads of educational materials, the principal must sift and sort in order to decide which suit the instructional program in his school. He cannot afford to ignore these because some are really excellent and vital to the program. On the other hand, neither can he be "taken in" by the novelty and glamour of some of these. Since there exist so many thousands of these materials, the principal must have reliable assistance in selecting what is in his power to select.

> Knowledge of the currently available technical aids--a necessity for all forward looking elementary principals--can be a frustrating situation. While it is possible to view with some degree of equanimity the few schools that offer computer-based facilities, it is very difficult to proceed without the ordinarily accepted and widely prevalent practices in educational techniques. A school without film projectors and film, filmstrips, tapes, tape recorders and overhead projectors is a school offering a second-rate program.
>
> (Trenholme and Turville 1968: 61)

Experienced teachers, supervisors, other principals, and some publisher-based educational consultants, as well as reading, workshops, and courses, can help to a greater or lesser degree. Knowledge of the children, the instructional program and the finances available also help him in this selection.

Special resources

Special resources also can be of great help to the school program. Here again the principal must make a wise selection so that children will not be deprived of valuable experiences, nor exposed to wasting hours of valuable school time:

> Everything that goes on in an elementary school building should be a learning activity. No enterprise can justifiably be undertaken that does not have as its purpose the furtherance of

learning of children or adults.

(Misner, Schneider, Keith 1963:143)

Parks offer special programs; certain companies offer free films. The dental hygienist, the school nurse, doctors, psychologists, scientists and others can serve as excellent resource persons. Some areas offer excellent opportunities for worthwhile field-trips. These experiences greatly enhance the instructional program. Which ones should the principal encourage; which ones discourage? Where can he find reliable information about these? Here he calls on his community agencies, his experienced teachers, parents and others to help him choose. He does not accept every suggested program and/or speaker, but he must select what he considers most beneficial.

Staff

Finally, in gathering information for the instructional program the principal meets frequently with his staff. These persons deal directly with the children and their problems and so they are in the best position to offer invaluable insights and suggestions to the principal.

Just as in gathering information about the children many sources were tapped, so also in gathering information about the instructional program the principal seeks help in many different ways before proceeding for "potentially, the modern administrator is the main instrument for successfully inducing a quality school program." (Dufay 1966: 160)

INFORMATION ABOUT THE STAFF

Teacher expectation

When the principal becomes knowledgeable about the children and the instructional program, he is also in a position to know what kind of staff would serve these children best. He wants teachers with a broad background of experience in elementary education, if the children's performance is below par, because they will need to do remedial work requiring knowledge of several instructional levels. He wants a staff willing to do individualized work, if he firmly believes that work should be as individualized as possible.

Surely the principal wants teachers who have college degrees, who have taken the required courses, possess a genuine "feel" for the children with whom they are working and who are versed in the latest methods and techniques. But he also wants teachers who are willing to work hard, to risk intelligent experimentation; teachers who can work well with the principal and with other teachers. In other words, complete dedication to teaching with all that this dedication supposes and involves means more to the principal than the number of credit hours a teacher has earned. The principal who knows well his school population and his instructional program, knows just as well the kind of teaching staff he would want in his school.

Decision-making and the staff

Realistically, however, the principal has very little to say about who will or will not teach in the school of which he has charge. The staff is already there when he arrives, and so he commences to work with these staff members. He must, therefore, get to know his teachers by studying records on them and observing them. He must know how to accept them and to recognize their strengths. He must see what in-service help is needed to develop these strengths. He must determine the basis on which to select them for extracurricular activities and duties. He must decide how to create the appropriate atmosphere for experimentation. Finally, guiding teachers to better performance through observations and conferences is necessary, but the principal must judge to what degree this is to be done.

Sources of information

As with the child one source of information about the teacher are the records on hand in the school office. These the principal studies with great care. Furthermore, the principal also observes the teacher formally as in a pre-arranged classroom observation; and informally, as he encounters her in many situations throughout the day. Also, children and parents frequently make comments about teachers, both favorable and unfavorable. Some value can be placed on these comments if they are repeated year after year by different children and parents. The principal becomes aware of the teacher's manner of interacting with children, parents, and other teachers. From his daily contacts with each of his teachers, a principal gains important insights into their individual characters and personalities. He learns their ability to organize, to be creative, to be flexible as well as their special interests and talents.

The principal should show an attitude of acceptance toward each teacher which deepens as he acquires more knowledge about her.

Acceptance and recognition of strengths

> Teachers are not all alike. They do not have the same concerns or abilities. If a supervisor believes in the worth of all, he must be willing to accept differences and to value each person for his special contribution. He must recognize that the staff is richer because of the presence of each person, regardless of the limitations of the various staff members. Official leadership must make allowances for differences in the temperament and tempo of various individuals and must encourage the staff to do so too. Attention must be centered on the special contribution that each staff member can make and on creating the situation in which he will want to make it.
>
> (Wiles 1955: 114)

He not only becomes aware of differences among his teachers, but also of the strengths of each one.

There exists "....a hierarchy of three areas of competency necessary for superior teaching: (1) mastery of content knowledge produces *subject matter competency*; (2) mastery of content knowledge plus behavioral skills produce *presentation competency*; (3) mastery of content knowledge plus behavioral skills plus humanistic skills produce *professional decision-making skills*." (Allen and Krasno 1968: 40)

In-service experience

The principal must select in-service experiences with extreme care in order to develop superior teaching among his staff members. Should he select a movie, recommend a particular book or magazine article? Should he bring in a speaker from the outside and/or have a staff member give a lecture or demonstration? Should he organize a workshop on the premises or suggest attendance at one being held elsewhere? How many teachers may profit from this in-service activity; how many will be bored and uninterested? These questions present themselves as the principal prepares in-service programs. He knows that the quality of the instructional program depends on teacher performance, that teacher performance must constantly improve, and that it is up to him to induce better performance. So, he must decide how best to do this based on the knowledge he possesses of his staff, of their needs and of their interests, as also their suggestions.

Extra-curricular activities

Many supporting activities go on within the school building or in connection with the school. Imperceptibly, these influence the children and the learning program. Who performs these activities and on what basis should these persons be selected? Some teachers are unwilling to take on extra duties; others, therefore, become over-burdened. The principal must learn which teachers are capable and willing to assume these activities. For example, the parent-teacher who lives a distance from the school cannot be asked to assume duties which will necessitate her coming early and staying late. On the other hand, a teacher who manages her time extremely well might easily serve as chairman of a committee where there is much work involved. The principal must select wisely.

The "right" atmosphere must be created by the principal. The following statement was made by a teacher and quoted by Wiles:

> From the very first day I met him I felt very much at ease with him and felt as though he were really interested, not only in me as a teacher, but as a human being also. All of the teachers felt that at any time they could go and talk with him

> about any matter, big or little, and he would always seem as though he had nothing else to do and what you felt was important, he felt was important too* * *He was interested in what I was doing and how _we_ could help _me_ do a better job.
>
> (Wiles 1966: 128)

Atmosphere

This kind of relationship places a weighty reponsibility on the pressured principal. Yet, if the staff is to feel free to experiment and to consistently produce, they must have the educational leader described above. And Dufay adds another note:

> The role of the modern elementary principal is a complex one. As the instructional leader about to guide his professional staff along the path of innovation, the role becomes especially demanding. All skills are called into play. Weaknesses that otherwise might be kept in shadow are magnified.
>
> (Dufay 1966: 180)

This points up the need for this "right" atmosphere and the great difficulty in achieving it.

Teacher Guidance

Recognition of teacher strengths and development of these strengths through in-service is an important function of the principal. Guiding the individual teacher to better performance while creating the right atmosphere is also important. How much guidance can a principal offer? When and how should this guidance be given? Some teachers accept suggestions readily and put them into practice immediately. Others react as though personally attacked even when a small suggestion is offered. Some teachers expect a conference after an observation and openly want to discuss the evaluation sheet. Others appear to want neither the observation nor the follow-up conference. How can the principal influence all his teachers to some degree at least? The principal fully realizes:

> Without behavioral changes on the part of teachers, we have only organizational labels and not new organizations. For instance, as several authorities have pointed out, the non-graded school is not just an organization; it is a totally different way of looking at pupils. If into a non-graded structure, we send a teacher who views pupils as the contemporary manifestation of original sin, then we can hardly expect to have an environment in which all students can succeed.
>
> (Pharis 1968: 45)

Therefore, he incessantly looks for new and different ways to approach each staff member. As he experiences the uniqueness of each, he tries to discover various ways of motivating each to educational competency.

CONCLUSION

This paper described some of the critical information required by the principal in the management of the elementary school. It limited itself to the areas of the child, the instructional program, and the staff. It showed that in reality these three areas are interdependent, as are many others with which the elementary school principal daily deals, and decision-making involving one area simultaneously flows into another. It also depicted the numberless decisions which the elementary principal is required to make, the constant flow of critical information needed with which to make these decisions, and the sources of this information.

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Chapter 4

Analysis and Implications of Student, Teacher and Parent Percepts of Student Performance

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The aspect of the larger study presented in this chapter is that of the application of multivariate analysis techniques to studies of the learner. Percepts (by teacher, parent and the student herself) of one child's experience and performance are reported. The ecological approach was emphasized, involving use of the student as the unit of analysis, while monitoring and evaluating the flow of instructional events in the classroom, and processing data about each individual student by computer. An analysis of variance technique was used for estimating reliability of the instruments used, and factor analysis made it possible to identify six groups of students on the basis of their self-concepts. Information of value was identified through follow-up reports, seminar discussions, and an analysis of the results. A comparison was obtained of student, teacher, and parent percepts of current and anticipated student performance (for 94 students). A factor analysis of the variables and an obverse factor analysis of the students were made. It is hoped that the techniques described here will constitute a beginning toward an adaptive and supportive information system for teachers and administrators.

INTRODUCTION

Multivariate analysis in studies of the learner

The study and analysis of the individual learner has been an area of research in education for over a century. Early research emphasis focused on statistical physical trait studies (Galton 1883), longitudinal anecdotal data collection studies (Darwin 1887), conditioned response studies (Pavlov 1903), intelligence studies (Binet 1905) and studies in the analysis of individual motivations (Freud 1938). Current research in early childhood education has focused on the effects of experience on the cognitive development of the child, social differences among children, and parental influences on the performance of children (Gray and Miller 1967). It has only been in the last ten years that studies have been directed toward the observation, recording and analysis of observed behavior in its natural setting and have been subjected to coding, processing and multivariate statistical analyses. A number of studies (Sells 1966) have demonstrated the value of multivariate analysis of variables used to measure aspects of the social environment. These studies are particularly important in identifying characteristics of organizations, of social climates, of work situations and other aspects of the personal and social environment.

The synthesis between current technological ability to analyze data and newly developed techniques for the sensitive observing and recording of events and behavior in natural school environments provides

The transactional model

many practical implications for teachers and administrators. The current work of Gordon (1963 and 1965), which draws heavily from Lewin's field theory (1935) and Prescott's biosocial approach, provides a viable model from which to establish communication with the critical individuals in the school environment. This model has been termed a transactional model. The transactional model consists of four parts which are derived from the transactional situation: the learner, the teacher, the material to be learned, and the learning setting.

Evaluation of elementary school programs

Gordon stresses the point that the transactional model differs from an interactional one in that interaction implies the operation of two or more independent entities. The transactional concept takes into consideration the idea that at any given moment in time, when a child is engaged with another person or event, both exist only in terms of each other, and behavior cannot be understood apart from the situation in which it occurs. Gordon states

> "The child does not exist independent of his world. Even biologically, what he "is" as the teacher sees him, represents phenotypically only those aspects of his genotype that have been structured as a result of his life experience." (Gordon 1966: 5)

The role of the school and the teacher must undergo changes if they are to profit from the wealth of relevant data which may be derived from the study of the elements in the transactional model. In an attempt to extend the ability of educational researchers to measure, evaluate and study the school environment, the Central Atlantic Regional Educational Laboratory embarked on a research project which had as its purpose the development of a model for the evaluation of selected elementary school programs. The results of the data gathering are complex and comprehensive. An illustration of the many variables for which data were gathered is given using Gordon's model in respect to a single child in a single school.

The Learning Setting

School description

The school selected had an all Negro enrollment and was located amid low-cost homes. The building was at least 60 years old and there had been no major renovations in the last twenty years. No public library, museums, or concerts were readily available for children in the school, nor were there any cultural programs or after-school activities such as drama or intramural athletics being planned by the school for the children. The building was not used for any form of adult education programs.

The principal of the school was a man in his mid-forties with a Master's degree, who fell in the category of those who have had 16-20 years of full-time teaching experience plus 6-10 years of administrative experience.

The school had 21 classroom teachers, a little more than half of whom were fully certified. Their average teaching experience was ten years. In addition, there were special resource teachers for music, art, remedial reading, remedial math, science, and foreign language.

The single student, who will be called Mary, was selected for intensive study. When Mary's parents were asked whether or not they wished to help select the teachers or the principal, they indicated that they did not nor did they feel that the school should have its own neighborhood school board.

Percepts of the learner

Mary did not perceive the general atmosphere of her classroom as positive. In her opinion, her class was always punished. She could do what she wanted to when she finished her work sometimes; she could get the help she needed from her teacher sometimes, or could go to the bathroom during the day without asking the teacher sometimes; she felt her classmates got along well together, only sometimes, and she could very rarely ask a classmate for help when she needed it. She could never talk quietly with her classmates during work time. However, she was never required to stay after school, or to miss recess period, or do extra work as punishment.

In her response to questions about the frequency of her participation in selected learning activities in the past year, Mary said her class had art, music, science, social studies, and arithmetic every week (rather than every day, hardly ever, or never). She worked on her own every week, whereas she worked in small groups every day. Her class had seat work, had a homework assignment, saw movies, T.V. or film strips every week, but hardly ever had physical education or art; studied health; worked on projects; or had tests.

The Teacher

Mary's classroom teacher was a woman in her mid-twenties, married, with less than five year's teaching experience. She had a B.A. degree from a public college. She felt strongly supported by the principal on all matters, including those of discipline and of dealing with parents, yet she estimated her teaching load to be extremely heavy. Although she enjoyed teaching very much, she felt she probably would not become a teacher if she could start all over again.

Time sampling observations

A total of twenty-nine "time sampling observations" were made by trained observers of Mary's classroom over a ten-day period. The instrument for such time sampling observations was designed to record classroom activities (e.g. teacher activity, pupil activity, instructional materials in use, curriculum areas, etc.), and configurations of the classroom (e.g. groupings of pupils, mode of teacher interaction, etc.) at the very instant of the observer's entry in the classroom. Based on the data gathered by these observations, the following information was available regarding Mary's teacher's use of classroom time.

Teacher interaction pattern

A little less than half (45%) of the teacher's time was spent in interacting with the class as a whole. About twenty-five percent of the time, the teacher was observed not interacting with any students, while approximately six percent of the time she was not in the room at all. About a fourth (25%) of the time she was seen interacting with either one pupil or a group of pupils (less than the total class).

Teacher activities

The major mode of the teacher's activity was characterized by "talking" (46% of the time), sometimes accompanied by other activities (e.g., talking and writing, talking and listening, demonstrating). The next largest segment of the teacher's time (28%) was spent in "doing routine" which refers to such activities as correcting papers, handing out materials, taking lunch counts. About a fifth (20%) of her time was devoted to "listening" accompanied by other activities.

Student activities

Language Arts subjects (e.g., reading, spelling and word study) were studied most often (34%) in Mary's classroom. Twenty percent of the time, observers found it impossible to determine the specific curricular topic which the pupils were studying. Ordinarily this implies that the class was in chaos. Thirteen percent of the time was devoted to studying arithmetic. Standard skills, which usually refer to the disciplining situations observed, along with routine, make up another twelve percent of the time. The remaining twenty-one percent of the time was divided among such curricular areas as social studies, art, and music. During the ten-day period of random time selection, science, foreign language, and library skills were never observed in use by any pupil in this classroom.

The Learner

Mary's achievement

At the time these data were collected, the end-of-year grades for Mary were not available. However, her previous year's grades (second grade) included four "Cs" (in Citizenship, Spelling, Arithmetic, and Social Studies) and one "D" (in Reading). This would suggest an average to slightly less than an average performance. Also, at the end of the last school year, her instructional level both in reading and arithmetic were recorded as "second grade, first semester" and her score on the Metropolitan Achievement Test was above median.

Varying percepts of Mary's achievement

Mary responded to questions designed to elicit her percepts of her achievements in relation to other boys and girls her age. She felt her work was better than her peers in "arithmetic" and "over-all grades," about the same in "social studies", "reading", and "science", but not as good in "playing games".

Mary, one of her parents, and her classroom teacher each perceived quite differently the level of Mary's achievement in various curricular areas. Mary's percent was by far the most positive one among the three, followed by that of her teacher, then that of her parent. Mary saw herself almost best in her class right now in three of the eight curricular areas listed, and very good in four others. The only area of her performance she saw as about average was sports. For next year, she thought she would be *almost best in the class* in six out of eight areas, rating only sports and arithmetic as *very good*.

On the other hand, the teacher did not see Mary as *almost best in the class* in any of the areas either currently or next year. She rated Mary *very good* in six out of eight areas currently, with *about average* in arithmetic and *not so good* in "talking in front of the class". There was no prediction by the teacher of improvement or regression in any of the areas for the next year.

Her parents saw Mary as *about average* in six out of eight areas with *not so good* rating in science and "talking in front of the class". However, next year they felt she would be *about average* in all eight areas.

Mary's teacher felt that the following five were Mary's major problem areas: abstract reasoning; attention span; following directions; arithmetic reasoning; arithmetic computation; and self consciousness. She also felt that Mary was in need of remedial instruction in number skills. (Note the relationship between these recommendations and the teacher's percept of Mary's achievement.) However, the teacher indicated that Mary *was* receiving adequate service in all of the above-mentioned areas.

Mary's judgment on issues concerning homework as to "what it should be" corresponded very closely with what she saw as the *current* situation. She felt that homework *should always be* on the same things she was studying in school, and that it *always was*; that it should *always* let her use her own ideas, and that it *always did*; that it *should always be* interesting to her, and that it *always was*; that somebody at home *should never* help her do her homework, and that *nobody ever did*; etc. The only exception to this positive correlation was that although she felt she *should always* help the teacher plan her homework, she *never* actually did.

Her parents' percepts on the same issues of homework differed a great deal from those of Mary's. Particularly concerning the current practices, they disagreed on all but two items (out of thirteen listed). The parents' responses to most issues were, in general, not as clear-cut as Mary's always vs. never; however, they chose such responses as *sometimes* or *most of the time*. For instance, homework only *sometimes* should help the child on the things she needed to do better, whereas *most of the time* it did; homework *should always* show the parents what the child was studying, but it only *sometimes did*.

Learning Materials

Only one kind of learning material at a time was observed being used in 27 out of the total of 29 observations made in Mary's classroom. In other words, different types of instructional materials were not observed being used at the same time by groups of students in this classroom. The most frequently observed materials were:

(1) Art materials (approximately 26% of time). "Art materials" were observed in use in all curricular areas and were not necessarily restricted to periods of art instruction.

(2) Text books -- one title only (approximately 26% of time)

(3) Written work by pupils (approximately 20% of time)

Many materials not used

The amount of time Mary's teacher used these and other materials was generally consistent with practices of all teachers in the school. A summary of the materials in use in the classroom appear in Table 1. It is important to note that certain items do not appear in Table 1, although provision for recording their use was built into the instrument used. For example, Group and Individual experience charts, phonics charts, commercially made worksheets, maps, graphs, and science materials were not observed in use in the school as a whole. In addition, the following categories of materials were not observed in use in this particular classroom:

(1) Variety of textbooks

(2) Dictionaries

(3) Reference books

(4) Reading charts and worksheets made by the teachers

(5) Workbooks

(6) Commercially made tests

(7) Phono-visual materials

(8) Globes

(9) Physical Education equipment

These materials (all combined) were used 12.9% of the time in other classrooms in the school.

Table 1 - Summary of Curricular Materials in Use in Classrooms

Curricular Materials Used by Teacher	*No. of Times Materials Were Observed in Use in Mary's Classroom	**Percentage of Time Materials were Observed in Use in Mary's Classroom	Percentage of Time Materials were Observed in Use by all Classrooms in This School
Textbooks (one title)	12	18.5	18.0
Trade Books	4	6.2	5.2
Other Books	4	6.2	5.2
Work Chart to be completed by Pupil	4	6.2	7.3
Directions and/or Standard/ Plans	1	1.5	0.3
Word List	1	1.5	0.6
Quantity Chart, Graph, Table, or Diagram	1	1.5	1.3
Tests (teacher-made)	1	1.5	0.7
Written Work (by pupil(s))	11	17.0	19.4
Model, Diorama, etc. (by pupil)	1	1.5	0.1
Picture (by pupil(s))	1	1.5	0.1
Art Materials	17	26.2	16.8
Music	1	1.5	1.7
Audio-Visual Equipment	1	1.5	2.6
Blackboards	4	6.2	7.1
Bulletin Board	1	1.5	0.7
Other Materials			12.9
TOTAL	65	100.0	100.0

*Same material can be recorded more than once per observation if the children were grouped to function on different levels.

**This percentage is based on the total number of materials observed in use during the 29 classroom observations.

Cybernetic model for educational diagnosis

Historically, this descriptive method of reporting on individual cases and developing case studies on specific children has been employed by Prescott (1957), Sears and Sherman (1965) and Gordon (1966). The Central Atlantic Regional Educational Laboratory attempted to merge some of these techniques and concepts into an ongoing cybernetic model for educational diagnosis, instructional strategy planning, implementation, measurement and evaluation. It was felt that synthesis of the humanistic and developmental approach of the early childhood education school of thinking with computer technology and the measurement and evaluational techniques of behavioral scientists would produce the necessary conditions for a Center for Diagnosis and Learning.

Major purpose of this paper

The major purpose of this paper is to report one aspect of that project and task. The specific objectives of this particular aspect of the study were to develop instrumentation which would provide a common stimulus for students, teachers, and parents concerning the actual and anticipated school performance of individual students, to analyze results obtained through administering the instrument, and to identify implications for administrators, teachers and teacher trainees. It was felt that this type of instrumentation would help provide insight into the similarities and differences of perception which existed among the three respondent groups. This information could then be used for staff development and community relations programs.

METHODS AND PROCEDURES

The Sample

Response to questionnaires

A total of 585 students, 150 parents and 18 teachers from two Washington, D.C. elementary schools, one parochial and one public, were included in the study. Five hundred and fifty-five students in grades 3 through 6 (95% of the total) were involved in the process of estimating the reliability of the student instrument. Data from student instruments could not be included in the analysis phase because of incompleteness. However, a 25% random sample of students, stratified by grade, was selected from the 585 in order to compare their percepts of their current and projected performance in eight areas of school performance with those of their parents and teachers. Basically, 150 students were randomly selected to be included in the comparison along with their parents and teachers.

Table 2 - Summary of the Number and Percent of Parent Forms which were Returned

	Public			Parochial			Total		
	No. Sent	Returned		No. Sent	Returned		No. Sent	Returned	
Grade		No.	Percent		No.	Percent		No.	Percent
3	23	13	57	16	13	81	39	26	67
4	29	15	52	18	18	100	47	33	70
5	24	19	79	20	16	80	44	35	80
6	8	8	100	12	9	75	20	17	85
TOTAL	84	55	66	66	56	85	150	111	74

One hundred and eleven parents (74% of the total) completed and returned the instrument. This figure is important when one considers the stereotype-image of the inner city parent. A summary of the distribution of returns appears in Table 2. Seventeen of the parents' instruments had to be eliminated because of incomplete or missing item responses leaving a total of ninety-four matched parent and student instruments. In addition, the number of students included in some of the analyses had to be reduced to 75, because of limitations of the statistical computer programs available. When this was necessary, the sample size was reduced on a random basis, stratified within grade and school.

Data Gathering Instruments

The instrument which was constructed to provide the common stimulus for student, parent, and teacher was based on psychological research in motivation (Lewin and Others, 1935), Sears (1941, 1964), Gordon (1962) and Rothlingshafer (1963). (The idea of asking a student how good he thinks he is in a particular curricular or extra-curricular area and how good he expects to become, has been used in many studies. It was felt that the value derived from the traditional univariate analysis of the results would be increased by asking the same basic questions of the parent of the student and the student's teacher and then performing a multivariate analysis of the response. The same items for all respondents were used with appropriate modification of the word, "you.") For example, the question: "How good are you in Reading right now?" was administered to the student. The student's parent was asked: "How good is your child in Reading right now?" The teacher was asked: "How good is Charles Smith in Reading right now?" A choice of one out of five categories was provided

Need for multivariate analysis

for a possible selection: 1. Almost Best in my class, 2. Very Good, 3. About Average, 4. Not so good, 5. Almost Poorest in my class. The word "the" was substituted for "my" on the parents and teachers instrument. See the Specimen Set of Instruments, January, 1969, for a more detailed description of the instrument as well as an example of the actual instrument. The areas covered by this type of item were reading, arithmetic, social studies, science, spelling, talking in front of the class, sports, and handwriting. In addition, the sex and grade level of the student and his grades (from the final marking period of his previous academic year) in reading, spelling and arithmetic were obtained from the cumulative record and included in the analysis. Common standardized test scores were not available for both the public and parochial schools.

Student record

A student record was created for each child, containing each piece of the data relating to that child, even though he was the direct source of only a little under one-third of the data. Essentially, responses by the child, parent, and teacher to each of 16 items (a total of 48 responses) the child's school grade and sex, and his three final grades comprised the fifty-three variable record for each student in the study. A summary description of the variables and the unit of measure appears in Figure 1.

Figure 1 - Summary of Variables and Unit of Measure

VARIABLE	DESCRIPTION	UNIT OF MEASURE
1 - 16	Student Response to "How good are you right now?" "How good do you think you can be next year?"	5-point scale (1,3,5,7,9) - Almost Best-1 to Almost Poorest-9
17 - 32	Teacher's Response to "How good is this student right now?" "How good do you think he can be next year?"	" " " " "
33 - 48	Parent's Response to "How good is your child right now?" "How good do you think he can be next year?"	" " " " "
49	Grade - The grade placement of the student	3 - 4 - 5 - 6
50	Sex - Sex of student	1=boy 0=girl
51	Reading Grade - Previous year's final grade	0=E,1=D,2=C, 3=B,4=A
52	Spelling Grade - " " " "	" " " " "
53	Arithmetic Grade - " " " "	" " " " "

Consistent with the stated objectives, there were three interrelated phases in this special aspect of the total project. 1. Instrument development and administration; 2. Processing and statistical analysis of data; 3. Identification of information for administrators, teachers and teacher trainees.

Systematic collection of data

Ecological approach to data collection

Each of these phases was carried out concurrently with other project-related instrument development and analysis. Specifically, nine instruments were developed and tried out in the two elementary schools. All instruments developed in the project were designed to provide data which the classroom teacher and school administrator could use in organizing and planning for instruction. The Central Atlantic Regional Educational Laboratory's purpose in this project was to systematically collect data about the student and his learning environment. All data was collected using the student as the unit of analysis and consequently individual student records were created and analyses performed on selected variables. This approach was two-fold. On the one hand, it directed toward the monitoring and eventual evaluation of instructional events in the classroom. This is of particular importance in curriculum development, materials development, and in most educational research design. Essentially, the value of the approach is that it permits an objective identification of the flow of events in a classroom. Selected variables are not eliminated from the data collection arbitrarily. This ecological approach to the data collection was maintained in this study to insure the inclusion of the important aspects of the students' educational environment. Generally, the instruments were constructed to permit interaction among the sub-groups studied, on individual items or questions. Secondly, the approach centered on use of the computer to process data about individual students. The design of a master-file with information about the student's academic achievement, his feelings about his school experience, and his parents' feelings, can provide classroom teachers and educational planners with valuable information concerning the process of education and its effects on individual students.

Integration of data

For example, the responses of both parents and teachers of an individual student to questions regarding how good he might be in reading could be integrated with the student's reading grade, his attitude toward reading-homework, class size, the teacher's feeling about teaching and textbooks, degree of strain, student's learning needs as perceived by the teacher, school attendance, and specific classroom teacher organization (the amount of time devoted to reading and the methods used).

Computer role

The potential of using the computer to store information and to process data for diagnoses appears to be unlimited. The project provides the basis for a beginning of this type of data gathering, processing and analysis. While the particular focus of this study was limited to a few selected variables, this does not imply that it would not be possible to continue to add variables for other types of univariate or multivariate analyses.

Instrument Development and Administration

Prior use of student inventory form

The development of the student inventory Form C, Percept of Adhievement, was accomplished within a five-day period. During this time it was pre-tested with urban elementary school teachers and parents. Prior to the study described here the instrument was administered to approximately 4,000 suburban school students, parents, and teachers, in both elementary and secondary schools. The actual administration of the inventory to their students, parents, and teachers was accomplished in an interval of twenty days. The students completed the Percept of Achievement inventory along with two other investories "My Classmates and I" and the "Percept of Homework." All three inventories were completed during the same time interval.

Teachers completed the "Teachers Percept of Students' Present and Future Achievement" inventory. This was administered as part of the battery of inventories and scales to which the teachers responded as part of the project.

Teacher and parent estimates

Parents were asked to complete the "Questions about Achievement" inventory along with two other questionnaires. There were two mailings of the parent-questionnaire over the 20-day period. The letter accompanying the questionnaires requested that the parents return the completed instrument by mail to the laboratory and not to the school. This may have been one of the factors contributing to the relatively high rate of return.

Processing and Statistical Analysis

The processing and statistical analysis of the data gathered from the students, parents and teachers was carried out by means of two mutually exclusive procedures. The first procedure was an analysis of all 555 student instruments for the purpose of estimating the reliability of the Percept of Achievement inventory. The second procedure involved analysis of the data from the 94 students, matched with their parents' and teachers' responses to the inventory.

Estimation of Reliability

The procedure followed in estimating the reliability of the instrument was as follows:

Analysis of variant to determine reliability

1. The student instrument was divided into two sections. Section one consisted of eight items which asked "How good are you right now?" Section two consisted of eight items which asked "How good do you think you can be next year?" The individual item responses in each section were assigned odd number values from 1 (Almost Best) to 9 (Almost Poorest). The total value for the eight items in Sections one and two was determined for each student.

2. An anlysis of variance technique for estimating reliability (Winer 1962: 127-131) was used. Both adjusted and unadjusted estimates of reliability were computed. The adjusted estimate was: .74 for Section one and .84 for Section two, and the unadjusted estimate was .72 for Section one and .81 for Section two. It may be seen from the slight difference between the adjusted and unadjusted values that the variation due to individual items had little effect on the within person variation.

Positive percepts of students

A summary of the analysis of variance estimate of reliability computation appears in Table 3. The computed reliabilities were within an acceptable range for this type of instrument. The groups' average score reflects a relatively positive percept toward their current performance and anticipated performance. This is particularly interesting in light of the voluminous literature on the inadequate self-concept of the inner city child.

Table 3: Analysis of Variance, Estimate of Reliability for All students studied with Section 1 and 2 of The Student Inventory "Percept of Achievement"

					Analysis of Variance Estimate of Reliability	
SECTION 1	Mean	S.d.	Mean Squares Between Students	Mean Squares Within Students	Unadjusted	Adjusted
How good are you right now in: Reading, arithmetic, social science, spelling, talking, sports, and handwriting	*33.59	9.83	12.07	3.38	.71	.74
SECTION 2						
How good do you think you can be next year in: Reading, arithmetic, social science, spelling, talking, sports and handwriting	22.17	8.83	9.75	1.87	.82	.84

* The individual items were assigned values from 1 - 9. The score totals were categorized as follows: Almost Best in my class, 8 - 20; Very good, 21 - 33; About Average, 34 - 46; Not so good, 47 - 59; and Almost Poorest in my class, 60 - 72.

Analysis of Students', Parents' and Teachers' Inventory Responses

The student record on each child consisted of 53 variables, see Figure 1. The analysis of the data from the 94 students whose parents' instruments were valid, on the 53 variables was carried out as follows:

1. A student record was created combining the responses of parents, teachers and students to the inventory with the five additional variables included in the analysis.

2. Means, standard deviations, and a 53 x 53 correlation matrix were computed for the data on the 94 students.

3. A factor analysis on the 53 x 53 correlation matrix was performed using the principal axis solution. Each factor that was extracted accounted for at least 5 percent of the common variance of the matrix. After the factors were extracted, new estimates of the communalities were inserted in the diagonals, and the process repeated. There were five iterations. There were eight factors explaining 99 percent of the variance. These factors were rotated using the Varimax solution. The major purpose of this analysis was to determine the grouping of the variables.

   Factor analysis to determine grouping of variables

4. A second factor analysis, an obverse analysis was performed in order to shift the focus from the variables toward the individual child. This analysis was accomplished by inverting the variables and observations. This made it possible to have a 94 x 94 matrix of intercorrelations among children with 53 observations on each child. Limitations of money and lack of availability of computer programs at the processing center made it necessary to reduce the number of students in the group to 75. This was accomplished by randomly selecting the students to be deleted from the analysis after they had been stratified within grade and school. A principal axis solution to the factor analysis was performed. Again the rule of accounting for at least 5 percent of common variance of the matrix was used in the extracting of factors. New estimates of communalities were inserted in the diagonals for each of the five iterations. Six factors were finally extracted accounting for 99 percent of the variance. These factors were rotated by the Varimax method.

   Obverse analysis to shift focus from variables to child

5. Means, standard deviation and correlations were computed for the students in each of the six factor groups derived from the obverse analysis. This was accomplished to provide information on the 53 variables about each of the six groups that were identified in the factor analysis.

   Six groups of students identified

The selected results from these analyses appear in Tables 6 to 14. The original project design for statistical analysis had additional analyses projected. The limited number of variables analyzed in this study reflect only the first stage of the planned multivariate analysis. Lack of sufficient funds prevented additional analyses and the synthesis of other available data.

Identification of Information For Administrators, Teachers, and Teacher Trainees

Three critical activities determine information used

The procedures used to determine how useful the information would be for administrators, teachers, and teacher trainees involved three critical activities: a follow-up report to participating teachers; seminar discussions with teachers and teacher trainees; and an analysis of the results to determine instructional and administrative implications. A brief description of the procedures relating to these activities follows:

Follow-up Report to Participating Teachers

Teachers review data

The research staff of the Central Atlantic Regional Educational Laboratory (CAREL) arranged with the administrative staff in the two cooperating elementary schools for a Fall inservice meeting. The purpose of this meeting was to report to the staff the results of the Spring data gathering. Summary descriptive data and graphs on individual schools and classes were prepared and presented at the meeting. Teachers were asked to review the data, ask questions and determine the relevancy of the information. In one of the two elementary schools a second meeting was requested to describe in more detail the results of selected instruments used in the study. This second meeting was held and a more comprehensive and detailed discussion of the instruments occurred.

Seminar Discussion with other Teachers and Teacher Trainees

Seminars on problem solving

In the process of conducting seminars for teachers and teacher trainees, the research staff used some of the study results as a basis for studying the child and his learning environment. Teachers were asked to use and evaluate the results of the study. For example, the teachers were given the problem of assessing what they would do about organizing for instruction, given a set of circumstances and the information gathered in the study. Another task required that they determine how to proceed, given the fact that student, teacher and parent perceived the achievement of the student in different ways.

The basic information used in the Follow-up Report to Participating Teachers and in the Seminars for Teachers and Teacher Trainees was a summary of the selected information about one student which was discussed previously. The data from the fourteen instruments developed and administered to the student, "Mary," her parents and classroom teacher and to the principal of her school, were reviewed and a narrative description of the responses was prepared.

The data on this child was restructured, using Gordon's transactional model as the basis. The information available on Gordon's four elements (see Page 1) was grouped and administrative and instructional implications of the data were determined.

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Analysis of the Results to Determine Instructional and Administrative Implications

A thorough review of the results of the statistical analyses was accomplished by the research staff to determine implications. The results of both factor analyses were reviewed and studied for instructional implications. The variance among the six factor groups (obverse analysis) along with the commonality of response within the groups was examined and motivational aspects determined.

Administrative implications of results

The administrative implications of the results centered around the problem of how to accommodate the overall group variance in response. Essentially, the students, teachers, and parents as individual groups had different perceptions of the achievement of the students. The major administrative questions were: (1) "Who actually sees the child as he is?" (2) "Whom do you change?" (3) "What do you do about the differences in perception?

FINDINGS AND CONCLUSION

Reliability of Instrument

Measurement of student self-concept

The development of an instrument which can be used as a common stimulus for students, parents, and teachers requires careful selection of the concept to be measured. In this study the concept measured related to the student's self-concept. Items were constructed with a minimum amount of complexity. The variance among the stimulus items for the three groups was kept to one word. This permitted the development of a high degree of homogeneity of items. It also permitted the use of computation procedures (analysis of variance) for estimating reliability frequently preferred among persons working in test theory.

A review of the results follows. Table 3 shows that the computed reliabilities appear to be within an acceptable range for objective personality tests: .46 low, .85 median, .97 high and for attitude scales: .47 low, .79 median, and .98 high. (Thorndike 1949:9). Considering the content of the test, the limitations of generalizing about a reliability coefficient which has been computed using analysis of variance technique, and the results of the factor structure, it may be concluded that the instrumentation was adequate.

High reliability for "now" and "next year" questions

The reliability of .74 for "How good are you right now" and .84 for "How good do you think you can be next year" may even be viewed as high when one considers the age range of the 555 students in grades 3 through 6. The added variance associated with the differences between the students attending a parochial and public school add support to this view. It should be noted, however, that only two schools were involved, and it is necessary to be very parsimonious about generalizing the results.

The results of the analysis clearly demonstrate that when the items are scaled there is a reasonable amount of consistency within the measured concept. The individual student tends to perceive himself in a highly consistent manner. If his perception of himself is positive regarding current performance in one area (e.g., reading), it tends to positive in all areas (e.g., sports, arithmetic). If it is negative in one area the tendency is for the student to perceive himself as negative in all areas. This pattern holds for his anticipated achievement as well. This is not to imply that a student who perceives himself as not doing too well currently does not aspire to do better next year. Rather, the pattern tends to be that there is a high degree of consistency of response within the perceived current and/or anticipated performance. The relationship between current and anticipated performance will be discussed in detail in the area of reading.

Students respond consistently

In summary, it may be concluded that the reliabilities developed and computed for the instrument were satisfactory for the purposes of the study and overall project. The students tended to respond consistently to stimulus items. There was only slight variance within the two scales which were designed to measure the perception of current and anticipated performance.

Results of Analysis obtained through Administering the Instruments

Three categories of results

The results of administering the inventory to the three groups, students, teachers and parents, have been classified for presentation into three categories: (1) a comparison of student's teachers' and parents' percepts of the student's current and anticipated performance in Reading; (2) Results of the factor analysis of variables studied; (3) Results of the obverse factor analysis. An attempt to provide detail and technical results with a non-technical description has been made in the analysis of the results.

A Comparison of the Student's, Teachers' and Parents' Percept of the Student's Performance in Reading

Seven variables for reading study

Reading, as the area of comparison, was selected because of the general importance it holds in all school-related learning activities. The student record consisted of all the information necessary for making the desired comparisons. There were seven variables relating to reading. The student's final reading grade from the previous year and the student's parents' and teachers' responses to current and anticipated achievement. Means, standard deviations and correlations were computed for these variables.

The 94 students included in this analysis indicated on the average that their perceptions of current performance was between "very good" and "about average". They felt they could be "very good" next year with a mean of 2.63, which is just better than "very good," and indicates a move toward "almost best in my class." Their teachers on the other hand perceived them as "about average" with a tendency toward "not so good," giving them an average rating of 5.62. Similar to the students, the teachers felt that the students could do better next year. The teachers' average rating of the students' anticipated performance next year was

Expectancy of success important

between "average" and just slightly "above average." The parents perceived their children to be somewhere between the teachers' and students' percepts. The mean for the parents' percepts of the students' current performance was "average" (4.9) and anticipated performance was "very good" (3.6). These results tend to be positive and encouraging in the light of what we think we know about inner city schools. The general positive percepts of next year's anticipated performance suggests hope for the students, parents and teachers. The validity of the percepts may be challenged. However, the importance of the students'. teachers', and parents' expectancy of success cannot be underestimated.

Low correlation for student percepts

The intercorrelations among percepts of current and anticipated performance of students by parents, teachers and students along with the students' reading grades appears in Table 4. These correlations provide interesting information. First, there is only a moderate correlation (.43) between the student's percept of his current performance and his anticipated performance. There is even less of a relationship (.27) between his perception of his current performance and last year's grades in reading. The correlation is even smaller (.25) between last year's reading grades and the student's percept of his anticipated achievement.

Table 4: Means, Standard Deviation and Correlations of Variables relating to Reading N=94

Reading	1	2	17	18	33	34	51	Mean	S.d.
Stu: Rdng Now 1								4.10	1.97
Stu: Rdng Next Yr 2	.43							2.63	1.55
Tchr: Now 17	.27	.31						5.62	2.18
Tchr: Next Yr 18	.25	.29	.88					4.79	1.96
Parent: Now 33	.29	.25	.61	.63				4.94	1.75
Parent: Next Yr 34	.51	.17	.44	.37	.74			3.61	1.48
Reading Grade 51 *	-.27	-.25	-.67	-.61	-.57	-.43		2.00	1.10

*The negative sign has been caused by the coding of the item response. A response of "Almost Best" was coded 1. A grade of "A" in reading was coded 4.

The students' views of their current performance were only moderately related to their teachers' percepts (.27) and their parents' percepts (.29). Parents' and teachers' percepts of students' current performance agreed better, with a correlation of .61. However, there was less agreement (.37) of percept between teachers and parents when anticipated achievement was compared.

Teachers percepts correlate well with grades

As could be expected, the teachers' perception of the students' reading achievement now correlated fairly well (.67) with grade, while their parents' percepts correlated .57. Although these correlations tend to be fairly high, the relationship between the parents' percepts of students' current performance with anticipated was higher (.74). The teachers' percepts correlated even better (.88).

Results of Factor Analysis

"Halo" effect

One of the advantages of multivariate analysis is that the potential generalizations that one can make, from simple correlations, become more meaningful when analyzed in a matrix. The 53 variables were intercorrelated (Table 5) and the factors analyzed to determine the underlying structure of the correlation matrix. There were eight factors that were rotated according to the Varimax solution in Table 6. It may be seen by an inspection of the rotated factor structure that the students', teachers' and parents' perceptions did not come out on the same factors. The results of the analysis of the data indicates that the achievement of the child is not perceived the same, and further, that there is a "halo" effect about the behaviors, leading to the major patterns as seen on factors 1 and 3.

Persistence of reading level

The first factor was identified as the teacher factor. The loadings on this factor for "reading now" are essentially the same as for "reading next year." This means that the good readers will be the good readers next year, and the poor ones, while they may improve, will still, relatively, be the poor ones next year. This is true even though the teachers' average rating for anticipated achievement of the students increased by 1.5 points over their current performance. The teachers' response to the first 12 items (reading - now through talking - next year) maintained this consistent relationship. The only exceptions were sports-now and next year and handwriting which split on two separate factors, 4 and 6 respectively.

This same "halo" effect was found for the parents' percepts, although there were some slight changes. The important fact, however, is that the parents' responses form a pattern, or factor structure, of their own and do not fall with the teachers' responses.

The students, on the other hand, tend to form two factors for their responses. Seven of the eight items relating to anticipated performance fall on factor 2. Only spelling - next year splits over to another factor. Factor 2 shows some consistency, or "halo" effect for the next year items and the now items distributing over three different factors with four of the items loading on factor 8. To some extent there is separate pairing of the now and next year performance, but on separate factors, not all on the main factor.

Students view next years' performance positively

The results of this analysis suggest that the students generally tend to view their performance for next year positively. They also appear to differentiate among their current variations in achievement. At

Table 5: Summary of Means, Std. Deviations, and Intercorrelations, for Students, Teachers and Parents, of the students' current and future performance in school related activities. (n=94)

VARIABLES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Rding now																
2. Rding nxt yr	.43															
3. Arith now	.17	.18														
4. Arith nxt yr	.12	.47	.43													
5. Soc St now	.37	.11	.17	.16												
6. Soc St nxt yr	.31	.36	.32	.52	.53											
7. Sci now	.33	.08	.15	.04	.54	.29										
8. Sci nxt yr	.25	.45	.22	.53	.22	.48	.45									
9. Spling now	.54	.26	.16	.13	.27	.17	.18	.13								
10. Spling nxt yr	.29	.46	.11	.31	.18	.27	.05	.26	.62							
11. Tlking now	.33	.25	.11	.16	.29	.26	.41	.39	.02	-.04						
12. Tlking nxt yr	.15	.31	-.03	.37	.28	.47	.20	.42	.01	.14	.53					
13. Sprts now	.11	.19	.21	.17	.22	.15	.15	.26	.14	.08	.17	.05				
14. Sprts nxt yr	.03	.26	.27	.44	.19	.40	.09	.36	.07	.07	.06	.31	.59			
15. Hndwrting now	.36	.17	.03	.10	.12	.22	.18	.30	.33	.28	.17	.18	.08	.07		
16. Hndwrting nxt yr.	.31	.50	.13	.38	.29	.54	.24	.57	.23	.41	.15	.38	.10	.30	.51	
17. Rding now	.27	.31	.20	.16	.12	.14	.09	.08	.29	.12	.11	.08	-.01	-.02	.05	.13
18. Rding nxt yr	.25	.29	.20	.17	.10	.08	.10	.14	.26	.13	.14	.08	-.01	-.03	.01	.13
19. Arith now	.15	.18	.39	.28	.02	.08	.15	.11	.24	.13	.07	-.08	.08	.02	-.01	.04
20. Arith nxt yr	.18	.22	.38	.34	-.00	.09	.05	.16	.29	.18	.06	-.05	.09	.04	.01	.12
21. Soc st now	.24	.15	.31	.17	.16	.15	.20	.06	.24	.11	.05	-.02	-.01	.00	-.09	.05
22. Soc st nxt yr	.22	.13	.31	.19	.04	.09	.03	.03	.23	.09	.02	-.03	.01	-.00	-.04	.03
23. Sci now	.16	.03	.32	.09	.04	.01	.23	.10	.22	-.06	.09	-.12	.07	-.02	-.05	.04
24. Sci nxt yr	.12	.01	.36	.17	.01	.01	.10	.03	.27	.01	-.01	-.15	.11	.04	-.11	-.01
25. Spling now	.17	.24	.24	.19	-.00	.11	.02	.10	.24	.18	.04	.01	-.08	-.08	.04	.15
26. Spling nxt yr	.12	.25	.24	.22	-.03	.05	-.02	.04	.23	.18	-.00	-.03	-.07	-.08	-.01	.10
27. Tlking now	.18	.12	.18	.17	.14	.25	.16	.12	.16	.11	.23	.23	.08	.01	.05	.07
28. Tlking nxt yr	.17	.13	.27	.22	.09	.13	.01	.03	.26	.18	.11	.10	.08	.00	.01	.06
29. Sprts now	-.07	.06	.11	.11	.09	.19	.10	.16	.07	.10	.10	.20	.20	.23	-.03	.08
30. Sprts nxt yr	-.07	.02	.20	.18	.13	.21	.06	.13	.11	.14	.05	.13	.21	.21	.01	.09
31. Hndwrting now	.28	.15	.08	.05	.11	.06	.12	.08	.25	.10	.19	.08	-.04	-.11	.24	.19
32. Hndwrting nxt yr.	.22	.13	.12	.07	.09	.03	.09	.08	.21	.08	.14	.02	-.03	-.08	.17	.12
33. Rding now	.29	.25	.23	.12	.17	.13	.15	.04	.21	.12	-.02	.01	.08	.06	-.00	.14
34. Rding nxt yr	.31	.17	.19	.06	.22	.21	.10	.03	.23	.18	-.04	.05	.07	.01	.10	.17
35. Arith now	-.09	.08	.33	.33	-.01	.08	.04	-.00	-.02	.11	-.02	-.00	-.06	.13	-.11	-.05
36. Arith nxt yr	.09	.13	.30	.27	.02	.20	-.03	.06	.07	.22	.00	.01	-.03	.09	-.12	-.02
37. Soc St now	-.07	.09	-.01	.12	-.10	-.02	.11	.18	.07	.07	-.07	-.05	-.00	-.02	.03	.13
38. Soc St nxt yr	.07	.24	.07	.16	.02	.13	.04	.18	.09	.17	-.03	.00	.06	.02	.19	.25
39. Sci now	-.07	-.11	.17	-.15	-.05	-.06	.19	-.13	-.01	-.03	-.16	-.10	-.19	-.09	-.01	-.05
40. Sci nxt yr	.05	.02	.20	.03	-.03	.06	.03	-.09	-.03	.07	-.18	-.14	-.12	-.07	.10	.07
41. Spling now	.20	.14	.21	.05	.05	.05	-.01	.07	.32	.27	-.09	-.11	-.01	.02	.08	.13
42. Spling nxt yr	.21	.11	.14	-.05	.04	.07	-.05	-.05	.29	.24	-.09	-.08	.08	.04	.05	.12
43. Tlking now	.01	.01	.09	.11	-.05	.03	.06	.09	-.21	-.21	.22	.20	-.05	-.09	-.02	-.08
44. Tlking nxt yr	.08	.18	.09	.17	-.01	.05	.01	.09	-.05	.02	.21	.23	-.02	-.05	.10	.13
45. Sprts now	-.06	-.03	.10	.15	.11	.13	.04	.04	-.15	-.01	-.10	.05	.25	.29	.18	.11
46. Sprts nxt yr	.07	.12	.13	.13	.10	.21	-.08	.01	-.04	.07	-.17	-.06	.29	.26	.26	.15
47. Hndwrting now	-.02	-.06	.09	.15	.01	.09	.10	.26	.09	.07	-.13	.02	-.05	.02	.49	.35
48. Hndwrting nxt yr.	.08	.07	.02	-.00	-.05	-.03	-.03	.10	.17	.18	-.07	-.02	-.11	-.19	.44	.29
49. Grade	.22	.08	.09	.05	.13	.17	-.02	.11	.05	.06	.24	.11	-.06	-.17	.01	.14
50. Sex	.12	.23	-.10	-.12	-.12	-.17	-.08	.01	.26	.33	.04	.02	-.27	-.17	.28	.22
51. Rding	.27	.25	.16	.16	.15	.09	.17	.04	.34	.18	.03	-.02	.00	.02	-.01	.19
52. Spling	.24	.23	.16	.16	.17	-.01	.13	.04	.33	.12	-.03	-.09	.01	.09	-.07	.06
53. Arith	.13	.13	.27	.24	.14	.15	.17	.02	.20	.21	-.03	.00	-.04	.16	.02	.10

VARIABLES	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1. Rding now																				
2. Rding nxt yr																				
3. Arith now																				
4. Arith nxt yr																				
5. Soc St now																				
6. Soc St nxt yr																				
7. Sci now																				
8. Sci nxt yr																				
9. Spling now																				
10. Spling nxt yr																				
11. Tlking now																				
12. Tlking nxt yr																				
13. Sprts now																				
14. Sprts nxt yr																				
15. Hndwrting now																				
16. Hndwrting nxt yr.																				
17. Rding now																				
18. Rding nxt yr	.88																			
19. Arith now	.73	.67																		
20. Arith nxt yr	.66	.73	.87																	
21. Soc st now	.76	.75	.73	.69																
22. Soc st nxt yr	.71	.79	.69	.77	.86															
23. Sci now	.66	.61	.75	.68	.76	.72														
24. Sci nxt yr	.63	.67	.72	.77	.74	.81	.88													
25. Spling now	.80	.78	.71	.66	.74	.72	.69	.62												
26. Spling nxt yr	.74	.82	.69	.75	.72	.81	.65	.69	.89											
27. Tlking now	.55	.49	.46	.43	.52	.48	.48	.42	.51	.48										
28. Tlking nxt yr	.52	.56	.51	.56	.52	.58	.50	.57	.51	.58	.85									
29. Sprts now	.23	.23	.16	.19	.28	.34	.30	.29	.34	.36	.39	.40								
30. Sprts nxt yr	.21	.24	.20	.28	.32	.40	.31	.35	.34	.41	.37	.43	.92							
31. Hndwrting now	.50	.45	.39	.35	.44	.44	.39	.35	.52	.46	.34	.34	.14	.13						
32. Hndwrting nxt yr.	.44	.45	.38	.40	.43	.48	.40	.41	.45	.48	.28	.37	.17	.20	.91					
33. Rding now	.61	.64	.41	.44	.53	.50	.35	.40	.59	.59	.41	.40	.12	.11	.40	.35				
34. Rding nxt yr	.44	.37	.25	.26	.37	.29	.24	.22	.41	.33	.32	.28	.21	.18	.30	.20	.74			
35. Arith now	.04	.03	.26	.26	.22	.16	.17	.19	.13	.20	.15	.23	.16	.21	-.02	.03	.14	.13		
36. Arith nxt yr	.13	.11	.27	.33	.19	.22	.17	.23	.12	.14	.20	.23	.13	.15	-.07	-.06	.24	.39	.67	
37. Soc St now	.31	.35	.31	.32	.35	.36	.27	.23	.37	.42	.17	.19	.17	.21	.13	.17	.39	.21	.26	.27
38. Soc St nxt yr	.21	.18	.19	.26	.14	.21	.13	.10	.18	.23	.10	.12	.14	.18	.01	.06	.26	.40	.24	.48
39. Sci now	.23	.22	.19	.16	.38	.28	.31	.18	.30	.29	.27	.23	.13	.15	.17	.16	.37	.31	.27	.22
40. Sci nxt yr	.16	.16	.15	.21	.26	.29	.18	.16	.26	.24	.14	.14	.01	.04	.12	.10	.43	.52	.26	.45
41. Spling now	.31	.40	.33	.38	.32	.36	.16	.23	.39	.42	.18	.25	.04	.08	.29	.30	.57	.45	.24	.34
42. Spling nxt yr	.20	.23	.24	.27	.24	.28	.13	.18	.22	.23	.20	.24	.08	.09	.18	.20	.42	.51	.20	.38
43. Tlking now	.16	.20	.10	.08	.13	.12	.02	-.05	.15	.16	.23	.12	-.00	.01	.09	.06	.36	.30	.28	.20
44. Tlking nxt yr	.17	.23	.15	.15	.14	.18	.11	.04	.22	.24	.23	.23	.03	.03	.17	.11	.35	.38	.29	.37
45. Sprts now	-.23	-.20	-.14	-.09	-.14	-.05	-.16	-.14	-.16	-.11	.06	.10	.18	.19	-.10	-.05	.07	.08	.22	.09
46. Sprts nxt yr	-.04	-.09	-.02	.02	-.04	.04	-.05	-.04	-.03	-.02	.11	.12	.14	.16	-.01	.01	.22	.29	.24	.29
47. Hndwrting now	.05	.11	.04	.11	.09	.15	.04	.05	.16	.17	.02	.08	.03	.06	.32	.31	.28	.27	.07	.01
48. Hndwrting nxt yr.	.14	.19	.06	.13	.08	.18	.02	.01	.22	.21	.07	.16	-.01	.12	.39	.35	.39	.43	.03	.17
49. Grade	.04	.13	.01	.10	.04	.01	.00	.03	.01	.04	-.02	.00	.03	.07	.02	.01	.00	.10	-.08	.06
50. Sex	.20	.28	.12	.19	.05	.16	.03	.04	.23	.30	.06	.16	-.05	-.06	.29	.30	.16	.10	-.03	.03
51. Rding	.67	.61	.49	.47	.56	.50	.45	.44	.61	.56	.40	.34	.12	.14	.32	.30	.57	.43	.04	.06
52. Spling	.65	.60	.48	.46	.57	.53	.46	.46	.57	.53	.30	.30	.11	.12	.34	.35	.54	.34	.06	.03
53. Arith	.41	.32	.48	.42	.47	.43	.35	.34	.40	.34	.29	.23	.17	.22	.06	.06	.29	.19	.27	.28

VARIABLES	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	Mean	S.D.
1. Rding now																		4.10	1.97
2. Rding nxt yr																		2.63	1.55
3. Arith now																		4.74	1.86
4. Arith nxt yr																		3.00	1.78
5. Soc St now																		4.34	1.77
6. Soc St nxt yr																		2.87	1.52
7. Sci now																		4.62	1.86
8. Sci nxt yr																		3.02	1.72
9. Spling now																		3.74	2.17
10. Spling nxt yr																		2.36	1.47
11. Tlking now																		4.51	2.26
12. Tlking nxt yr																		2.91	1.78
13. Sprts now																		3.15	1.95
14. Sprts nxt yr																		2.32	1.70
15. Hndwrting now																		4.13	2.21
16. Hndwrting nxt yr.																		2.53	1.64
17. Rding now																		5.62	2.18
18. Rding nxt yr																		4.79	1.96
19. Arith now																		5.70	1.92
20. Arith nxt yr																		5.04	1.85
21. Soc st now																		5.45	1.53
22. Soc st nxt yr																		5.00	1.63
23. Sci now																		5.49	1.65
24. Sci nxt yr																		5.11	1.56
25. Spling now																		5.23	1.99
26. Spling nxt yr																		4.70	1.83
27. Tlking now																		5.55	1.86
28. Tlking nxt yr																		4.89	1.67
29. Sprts now																		4.59	1.72
30. Sprts nxt yr																		4.34	1.64
31. Hndwrting now																		5.08	2.05
32. Hndwrting nxt yr.																		4.64	2.03
33. Rding now																		4.94	1.75
34. Rding nxt yr																		3.61	1.48
35. Arith now																		5.36	1.47
36. Arith nxt yr																		4.24	1.39
37. Soc St now																		4.74	1.25
38. Soc St nxt yr	.62																	4.05	1.31
39. Sci now	.38	.26																4.76	1.31
40. Sci nxt yr	.32	.55	.64															3.86	1.24
41. Spling now	.43	.41	.20	.35														4.47	1.81
42. Spling nxt yr	.33	.52	.21	.41	.76													3.71	1.66
43. Tlking now	.24	.23	.32	.28	.27	.15												4.98	1.72
44. Tlking nxt yr	.33	.41	.33	.45	.32	.29	.75											3.86	1.52
45. Sprts now	.11	.17	.10	.21	.05	.12	.10	.12										4.23	1.64
46. Sprts nxt yr	.20	.38	.12	.38	.19	.26	.16	.29	.83									3.71	1.53
47. Hndwrting now	.35	.30	.16	.29	.35	.20	.15	.16	.22	.19								4.72	1.91
48. Hndwrting nxt yr.	.40	.42	.20	.38	.45	.39	.23	.37	.11	.23	.80							3.70	1.54
49. Grade	-.12	-.03	-.17	-.04	-.00	-.02	.01	-.00	-.26	-.22	-.08	.03						4.43	0.99
50. Sex	.16	.21	.07	.12	.35	.21	.04	.27	-.10	.03	.27	.40	-.00					0.48	0.50
51. Rding	.26	.15	.22	.15	.37	.26	.10	.06	-.15	-.04	.09	.12	-.24	.21				2.00	1.13
52. Spling	.23	.11	.22	.10	.34	.20	-.00	-.01	-.16	-.07	.08	.08	-.31	.15	-.79			2.13	1.10
53. Arith	.22	.20	.24	.23	.30	.22	.02	.02	.16	.18	-.01	-.07	-.41	.04	-.63	-.64		1.68	0.94

Table 6
Rotated Factor Loadings
(Varimax Method)

					FACTOR				
VARIABLE	1	2	3	4	5	6	7	8	h^2
* 1. Rding now	.16	.21	.09	.10	-.35	-.14	.10	.57	.56
2. Rding nxt yr	.15	.59	.12	.09	-.22	-.14	-.01	.15	.49
3. Arith now	.29	.27	.21	-.17	-.11	.19	-.01	-.06	.28
4. Arith nxt yr	.18	.75	.11	-.09	-.04	.13	-.06	-.09	.65
5. Soc. St. now	.02	.22	-.00	-.04	-.14	.17	-.02	.61	.48
6. Soc. St. nxt yr	.03	.59	.10	-.03	-.10	.25	.06	.37	.57
7. Sci. now	.09	.22	-.04	.02	.07	.07	-.07	.49	.31
8. Sci. nxt yr	.05	.74	-.05	.18	.02	.08	.04	.15	.61
9. Spling now	.26	.12	.05	.17	-.64	-.04	.02	.26	.59
10. Spling nxt yr	.08	.34	.17	.17	-.57	-.01	.05	.05	.51
11. Tlking now	.09	.38	-.13	-.02	.24	-.06	.30	.43	.51
12. Tlking nxt yr	-.03	.55	-.07	.07	.24	.06	.18	.32	.50
13. Sprts now	-.02	.23	-.04	-.09	-.11	.39	-.09	.18	.27
14. Sprts nxt yr	-.06	.48	-.02	-.14	-.08	.40	-.26	.08	.49
15. Hndwrting now	-.10	.26	.02	.57	-.17	.09	.01	.16	.47
16. Hndwrting nxt yr	.00	.60	.04	.42	-.20	.06	-.03	.18	.62
* 17. Rding now	.84	.08	.10	.09	-.01	-.14	-.10	.20	.80
18. Rding nxt yr	.85	.10	.11	.14	.01	-.15	-.01	.12	.81
19. Arith now	.81	.14	.15	-.08	-.09	-.03	-.06	-.07	.73
20. Arith nxt yr	.81	.20	.20	-.02	-.16	.01	.02	-.15	.78
21. Soc. St now	.86	.01	.15	-.04	-.01	.04	-.08	.14	.78
22. Soc. St nxt yr	.86	-.00	.17	.06	-.04	.12	-.03	-.02	.79
23. Sci. now	.82	-.03	.03	-.06	.02	.12	-.02	.03	.69
24. Sci. nxt yr	.84	-.04	.04	-.10	-.12	.16	.00	-.08	.76
25. Spling now	.85	.06	.14	.18	.01	-.04	-.06	.01	.78
26. Spling nxt yr	.87	.06	.17	.18	-.01	-.00	-.01	-.12	.83
27. Tlking now	.58	.06	.15	.01	.12	.25	.09	.27	.51
28. Tlking nxt yr	.64	.02	.17	.05	-.02	.29	.15	.09	.56
29. Sprts now	.35	.07	.00	.02	.05	.61	.12	.03	.52
30. Sprts nxt yr	.38	.08	.03	.01	.01	.65	.12	-.02	.59
31. Hndwrting now	.51	-.04	-.03	.52	.02	-.01	.09	.23	.60
32. Hndwrting nxt yr	.52	-.05	-.03	.48	-.01	.04	.07	.13	.52
* 33. Rding now	.51	-.02	.48	.20	.02	-.06	-.19	.33	.67
34. Rding nxt yr	.28	-.06	.58	.17	-.08	.04	-.03	.38	.61
35. Arith now	.15	.17	.49	-.24	.06	.18	-.00	-.20	.43
36. Arith nxt yr	.14	.17	.71	-.28	-.12	.09	-.14	-.11	.68
37. Soc. St. now	.30	.09	.43	.24	.12	.03	-.15	-.19	.41
38. Soc. St. nxt yr	.09	.17	.64	.21	-.05	.06	-.05	-.09	.50
39. Sci. now	.26	-.22	.43	.07	.24	.06	-.16	.05	.39
40. Sci. nxt yr	.12	-.12	.70	.14	.07	.05	-.10	.01	.55
41. Spling now	.30	-.01	.58	.26	-.24	-.10	-.09	.04	.57
42. Spling nxt yr	.17	-.10	.62	.16	-.30	.02	-.03	.10	.54
43. Tlking now	.09	.09	.48	.05	.59	-.13	.08	.14	.65
44. Tlking nxt yr	.11	.17	.62	.16	.40	-.10	.16	.08	.66
45. Sprts now	-.25	.07	.28	.12	.10	.60	-.27	.00	.60
46. Sprts nxt yr	-.16	.07	.48	.15	-.02	.50	-.24	.02	.59
47. Hndwrting now	.04	.10	.23	.71	.05	.12	-.12	-.10	.60
48. Hndwrting nxt yr	.06	-.03	.43	.76	-.02	-.04	.05	-.05	.78
49. Grade	.04	.09	-.01	-.02	-.10	-.10	.62	.11	.43
50. Sex	.16	.02	.15	.47	-.16	-.27	.06	.09	.38
51. Rding	.61	.06	.12	.07	-.13	-.19	-.47	.26	.73
52. Spling	.62	.01	.04	.03	-.14	-.18	-.56	.21	.79
53. Arith	.41	.15	.22	-.17	-.13	.07	-.56	.07	.61

* 1 - 16 indicates students' response; 17-32 teachers' response; 33 - 48 parents' response

least their own perceptions of their achievements are not the same in all areas. Unlike their teachers or parents percepts which did not vary too greatly, the students tended to assess selected areas differently.

Factor analysis helps define general problems

It should be kept in mind that the results of this type of factor analysis is of particular value for institutional type decisions. It provides valuable information for decision-makers within a broad general frame. The specific individual student information necessary for educational diagnosis and instructional planning must be focused on the individual child. This type of analysis helps in the identification and definition of the general problems and questions educational decision-makers must treat.

Results of the Obverse Analysis

Getting information on each child

The preceding factor analysis focused on the groupings of variables for the purpose of defining and identifying problem areas. Thus, the 53 variables were analyzed, with 94 subjects, or measurements, on each one. A second type of factor analysis, an obverse analysis, shifts the focus toward the individual child. By inverting the variables and observations, it is possible to develop a 94 by 94 matrix of intercorrelations among children, with 53 observations on each child. This type of analysis increases the value of the information on each child and helps focus on the resolution of individual student problems.

Because of the limitations of the computer program available at the Computer Center, it was necessary to reduce the group of students included in the analysis to 75. As noted earlier, this was done on a random basis, stratified within grade and school.

Six groups of students defined by the factors

Although several students had high loadings on more than one factor, a first look at the makeup of the students on the factors was obtained by assigning each student to the factor on which he had the highest loadings. Factor one had 33 students; factor two, 6 students; factor three, 16 students; factor four, 7 students; factor five, 5 students; and factor six, 8 students.

Tables 7 through 14 present the means of the variables for each of the six groups of students that were defined by the factors. Table 7 presents the mean scores on the items on reading, for the students, teachers, and parents. As pointed out earlier, "best in class" had a value of 1, "very good" had a value of 3, "about average" had 5, "not so good" had 7, and "almost poorest" had 9. Thus a score under 5 represents a perception of reading ability that is above average, while a score of over 5 indicates below average.

Table 7 - Current and Anticipated Mean Scores in Reading for Each of the Six Factor Groups

	How good in Reading Now			How good in Reading Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	4.06	7.06	5.30	2.67	6.00	3.70
2	2.00	1.67	2.67	1.00	1.67	1.67
3	3.13	4.88	5.50	2.25	4.50	4.00
4	4.43	3.57	3.86	3.00	2.71	3.29
5	4.20	3.40	3.00	3.00	3.40	3.40
6	6.50	6.50	5.50	4.25	5.50	4.00

Table 8 - Current and Anticipated Mean Scores in Arithmetic for Each of the Six Factor Groups

	How good in Arithmetic Now			How good in Arithmetic Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	5.36	7.18	5.42	3.00	6.33	4.18
2	3.33	2.33	4.33	1.33	2.00	2.33
3	4.13	4.87	5.75	2.25	4.63	4.75
4	5.57	5.00	5.57	4.14	4.43	5.00
5	4.60	3.40	6.20	3.40	2.60	4.60
6	4.25	5.25	4.50	3.25	4.75	3.50

Table 9 - Current and Anticipated Mean Scores in Spelling for Each of the Six Factor Groups

	How good in Spelling Now			How good in Spelling Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	4.21	6.58	4.52	2.33	5.91	3.64
2	1.67	2.33	2.67	1.00	2.33	1.67
3	2.25	4.88	5.38	1.23	4.75	4.63
4	3.86	3.57	4.43	3.29	3.00	4.14
5	2.20	3.40	2.20	2.20	3.00	2.60
6	7.00	5.25	5.50	4.00	4.50	4.50

Table 10 - Current and Anticipated Mean Scores in Social Studies for Each of the Six Factor Groups

	How good in Social Studies Now			How good in Social Studies Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	4.33	6.52	4.76	2.88	6.09	4.00
2	3.67	2.67	3.67	2.00	2.33	2.33
3	3.25	5.13	5.50	1.88	5.00	5.00
4	4.71	4.43	4.71	3.57	4.14	4.71
5	5.40	4.60	4.20	3.80	3.80	3.80
6	5.50	5.25	4.50	3.50	4.50	4.00

Table 11 - Current and Anticipated Mean Scores in Science for Each of the Six Factor Groups

	How good in Science Now			How good in Science Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	4.64	6.82	4.94	3.12	6.21	3.88
2	4.00	3.66	3.66	2.33	3.33	2.33
3	4.25	4.88	5.63	2.63	4.75	4.88
4	4.14	4.43	3.86	3.29	4.43	3.86
5	5.80	4.20	4.60	4.20	3.40	3.40
6	5.50	5.25	4.35	3.75	5.00	3.75

Table 12 - Current and Anticipated Mean Scores in Talking for Each of the Six Factor Groups

	How good in Talking Now			How good in Talking Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	4.82	6.52	4.76	2.58	5.79	3.64
2	4.00	2.67	4.00	2.00	2.67	2.33
3	3.63	4.88	5.87	2.38	4.50	5.00
4	3.57	5.00	4.14	3.57	4.43	3.57
5	7.00	5.40	5.80	5.40	4.60	4.60
6	4.75	5.75	4.25	3.75	5.25	3.75

Table 13 - Current and Anticipated Mean Scores in Sports for Each of the Six Factor Groups

	How good in Sports Now			How good in Sports Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	3.30	5.30	3.97	2.33	5.00	3.45
2	4.00	3.67	4.67	2.33	3.67	3.33
3	1.88	4.50	4.75	1.63	4.25	4.25
4	3.86	4.14	6.14	3.29	4.14	5.57
5	3.00	6.20	4.20	1.80	5.40	3.00
6	3.00	3.50	3.00	2.00	3.25	3.00

Table 14 - Current and Anticipated Mean Scores in Handwriting for Each of the Six Factor Groups

	How good in Handwriting Now			How good in Handwriting Next Year		
Factor Group	Student	Teacher	Parent	Student	Teacher	Parent
1	3.85	5.73	4.45	2.39	5.30	3.33
2	3.33	4.67	4.67	1.67	4.67	3.33
3	4.38	5.38	6.37	2.38	5.13	5.25
4	4.14	2.71	4.14	3.29	2.43	3.29
5	3.80	3.40	3.40	3.00	3.40	2.80
6	6.50	6.00	5.75	4.25	5.25	4.75

Highest average ratings by the six factor groups

An analysis of the distribution of mean ratings by each of the six factor groups appears in Table 15. The average ratings of each subgroup (students, teacher and parents in the eight areas studied) were analyzed. This was done to determine the highest average rating among the subgroups' perceptions of current and anticipated achievements. The highest mean scores for the students', parents' and teachers' perception of current and anticipated achievement was ranked and then summarized. An inspection of Table 15 shows the highest ranking in each of the areas.

Table 15: Summary of the Highest Average Ranking of the Six Factor Groups by Students', Teachers' and Parents' Percepts of Current and Anticipated Achievement in Each of the Eight Areas Measured

Area	Student		Teacher		Parent	
	Current	Anticipated	Current	Anticipated	Current	Anticipated
Reading	*2	2	2	2	2	2
Arithmetic	2	2	2	2	2	2
Spelling	2	2	2	2	5	2
Social Studies	3	3	2	2	2	2
Science	2	2	2	2	2	2
Talking	**4	2	2	2	2	2
Sports	3	3	6	6	6	6
Handwriting	2	2	4	4	5	5

*Factor Group 2 gave themselves the highest rating in reading this year and next.

**Factor Group 4 rated themselves the best in talking in front of the class this year, but Factor Group 2 rated themselves higher for next year's achievement.

The teachers rated the second factor group of students' current and anticipated performance as best in the class in reading, arithmetic, spelling, social studies, science and talking in front of the class. Factor group 6 was rated best in sports, and factor group 4 best in handwriting. There was a high degree of consistency between the teachers' percept of the students' current and anticipated performance. For the students' percept regarding talking in front of the class, Factor group 4 rated itself highest on its current achievement, but factor group 2 rated itself higher

Discussion of high ratings

on its next year's anticipated achievement. Only factor group 3 rated itself higher than factor group 2 in any of the eight areas. These two areas were sports and social studies. However, the parents of the students in factor group 3 did not rate them high in any area. The parents of the students in factor group 6 agreed with the teachers' rating, as did the parents in factor group 2 in reading, arithmetic, social studies, science and talking in front of the class. The parents of the students in factor group 5 perceived their students as doing best in spelling (current only) and handwriting.

In summary, it can be seen that generally the six students in factor group 2 as well as their teachers and parents perceived their current and anticipated performance in the same way. Generally, they were and were perceived as being best in the class and they were the best. Exceptions to this pattern lay in the areas of sports and handwriting.

Lowest average ratings by the six factor groups

A similar analysis of the lowest ranking of factor groups appears in Table 16. Factor group 1 was rated lowest by teachers in both their current and anticipated achievement in reading, arithmetic, spelling, social studies, science, and talking in front of the class.

Table 16: Summary of the Lowest Average Ranking of the Six Factor Groups by Students', Teachers', and Parents' Percepts of Current and Anticipated Achievement in Each of the Eight Areas Measured

Area	Student		Teacher		Parent	
	Current	Anticipated	Current	Anticipated	Current	Anticipated
Reading	*6	6	1	1	6 & 3	6 & 3
Arithmetic	4	4	1	1	3	4
Spelling	6	6	1	1	6	3
Social Studies	6	5	1	1	3	3
Science	5	5	1	1	1	3
Talking	5	5	1	1	3	3
Sports	**2	4	5	5	4	4
Handwriting	6	6	6	1	3	3

*Factor Group 6 gave themselves the lowest rating on their current and anticipated achievement in reading.

**Factor Group 2 gave themselves the lowest rating on their achievement in sports but Factor group 4 rated themselves lower on their anticipated achievement

Discussion of low ratings

In addition, the anticipated performance in handwriting was given the lowest rating for this group. This group's students and their parents did not agree with this percept. The parents only rated the students' current performance in science as the lowest, while the students did not rate themselves lower than the other factor groups in any of the areas. Generally, factor group 5 rated itself lowest with factor group 6 close behind. It is interesting to note that factor group 2 rated itself lowest in current performance in sports. Factor group 4, however, displaced group 2 from the lowest in sports in its rating of anticipated performance. This group also rated itself lowest in arithmetic. Their parents agreed with the sports rating and with the anticipated performance in arithmetic. It should be kept in mind that these ratings are comparisons among the factor groups and although a particular factor group has the lowest rating it does not necessarily mean they have a negative self-percept. The lowest rating by any group of students was "not so good" in talking in front of the class (group 5) and in spelling and reading (group 6).

Treatment of discrepancies within and among ratings

In order to determine the amount of discrepancy within and among the ratings of the individual factor groups, one area--reading--was selected for an in-depth analysis of the responses. A review of the mean scores suggested that generally a 1.5 score difference between ratings would be large enough to permit the assumption that a practical and real difference existed between ratings. It was decided that a statistical verification of this assumption was necessary. The students' mean scores on the current and anticipated performance in reading for each of the six factor groups were used and 95% confidence limits were computed. A summary of the computed values for both the current and anticipated performance appears in Table 17. It may be seen that only 3 of the 12 intervals exceed the 1.5 score difference

Table 17: Mean Scores and Ninety-five Percent Confidence Interval of Current and Anticipated Reading Achievement For Each of the Six Factor Groups

			Performance		
			Current		Anticipated
Factor Group	No.	Mean	95% Confidence Interval	Mean	95% Confidence Interval
1	33	4.06	± .6746	2.67	± .5076
2	6	2.00	±1.1541	1.00	± .0000
3	16	3.13	±1.0655	2.25	± .8577
4	7	4.43	±1.7542	3.00	± 2.1328
5	5	4.20	±1.3630	3.00	± 1.7472
6	8	6.50	± .7771	4.25	± .7771

(i.e., the students in factor group 4, for both current and anticipated achievement and those in factor group 5 for anticipated achievement).

Selective comparison of the average difference ratings

It was concluded that the 1.5 score difference would be satisfactory, as six of the twelve Means had intervals of .8577 or less and three were less than 1.5. A summary of a selected comparison between respondents within each factor group appears in Table 18. At the left of Table 18, the type of group comparison made is shown. The results of the comparison appear in each of the next six columns. For example, Column one, row two shows the results of comparing factor group 1 students' current and anticipated performance in reading. The positive sign (+) indicates that there was a 1.50 or greater difference between the students' current and anticipated performance in reading.

It is important to remember that 1.5 was established as the standard for practical difference. A statistical difference also existed in the comparisons for at least four of the Factor groups. It should also be kept in mind that if the difference between the means was 1.49 or lower, a no-difference (0) conclusion was reached. An inspection of Table 18 reveals that in every one of the nine comparisons there was at least one mean score difference observed in at least one factor group.

Percepts of first factor group

The first factor group had thirty-three students, with an average grade placement of 4.42 (See Table 19); about half (.52) were male and their average reading grade was D+ (1.52). They, as a group, anticipated that their performance would improve from about average ($\bar{x}$ = 4.06) to very good ($\bar{x}$ = 2.67). Their parents agreed with this percept although they didn't rate the students current performance ($\bar{x}$ = 5.30) as high nor did they anticipate ($\bar{x}$ = 3.70) the same amount of improvement. Teachers did not agree with either the students or their parents' perception of current and anticipated performance. They perceived students' current achievement as not so good ($\bar{x}$ = 7.06) and anticipated that it would be not so good next year ($\bar{x}$ = 6.00). An analysis of the specific comparison reveals that this pattern of difference in percept is consistent within this factor group. Only the students' percepts of current performance and the parents' percepts of anticipated performance fell within the 1.49 difference range. It appears that this group has insulated themselves from adult judgments.

The results have clear implications for classroom teachers. The students in the first factor group may be viewed as denying the realities of their relative position in reading. A question as to why they deny this may be raised. There are at least two answers: (1) for some, it may be strength of ego, a strength that can be built on by the teacher if he can provide remedial help; (2) for others in the group, this response may be a negative defense, used to avoid facing reality, a method used for withdrawing from the environment. Additional information would be required to determine the validity of either answer.

Table 18: Selective Comparison of the Average Difference Ratings by Students, Teachers and Parents in the Six Factor Groups regarding Students' Current and Anticipated Performance in Reading

	FACTOR GROUP					
Comparison	Difference*					
	1	2	3	4	5	6
1. Student - Student Current - Next Year	0	0	0	0	0	+
2. Student - Teacher Current - Current	+	0	+	0	0	0
3. Student - Parent Current - Current	+	0	+	0	0	0
4. Parent - Teacher Current - Current	+	0	0	0	0	0
5. Student - Teacher Next Year - Next Year	+	0	+	0	0	0
6. Student - Parent Next Year - Next Year	+	0	+	0	0	0
7. Parent - Teacher Next Year - Next Year	+	0	0	0	0	+
8. Student - Teacher Current - Next Year	+	0	0	+	0	0
9. Student - Parent Current - Next Year	0	0	0	0	0	+
Number of students	33	6	16	7	5	8

*A percept difference of 1.5 or greater was assigned a positive value if the difference was symbolic of an improved performance. A difference of 1.49 or less was assigned a zero value, or no expected difference in performance.

All differences analyzed between current and anticipated performance were positive.

In summary, the first factor group may best be described as perceiving itself a little above average in reading this year and very good next year. This is true in spite of their teachers' rating of not so good, their previous D+ reading grades, and their parents' rating of average to a little above average.

Percepts of second factor group

Factor group 2 had six students, five girls and one boy, with an average grade placement of 5.17 (See Table 19). Their previous reading grades were A ($\bar{x}$ = 4.00). As a group, these students perceived their current performance as slightly above very good ($\bar{x}$ = 2.00) and they anticipated that they would be almost best ($\bar{x}$ = 1.00) next year. Their parents agreed with them, although they didn't rate the current performance ($\bar{x}$ = 2.67) or the anticipated performance ($\bar{x}$ = 1.67) as high. The teachers also agreed and rated the students' current and anticipated performance the same ($\bar{x}$ = 1.67), almost best in the class.

This group may best be characterized as having a strong self-concept and as being supported by both teachers and parents. This support should lead to a continuation of the successful experience in reading and the maintenance of a high level of aspiration.

Percepts of third factor group

The third factor group was the second largest (N = 16) and consisted mostly of males (.88) with an average grade placement of 3.94 (See Table 19) and their average reading grade was C ($\bar{x}$ = 2.31). They perceived their current performance as very good ($\bar{x}$ = 3.13) and anticipated that they would be very good ($\bar{x}$ = 2.25) next year. Their parents and teachers did not agree with their percepts of current or anticipated achievement. The parents perceived the students current performance as about average ($\bar{x}$ = 5.50) as did the teachers ($\bar{x}$ = 4.88). Anticipated achievement was perceived by parents as slightly above average ($\bar{x}$ = 4.00) and by teachers as average ($\bar{x}$ = 4.50).

It may be concluded that this group of fourteen boys and two girls had a positive self-concept. The source of this self-concept would be interesting to investigate. An inspection of Table 15 shows that this group rates themselves the highest in sports and social studies, and Table 16 shows that they do not rate themselves lowest in any of the eight areas. This is true even though their parents rated their current performance in reading, arithmetic, social studies, talking in front of class and handwriting lower than any other factor group's parents. They also rated their children lower in their percept of anticipated performance in science as well as all the above-mentioned areas with the exception of arithmetic.

It appear, with this limited information, that this group is receiving ego strength from their successful participation in sports. Their general average performance in reading, along with what appears to be a lack of teacher and parental support, has not affected their self-concept adversely.

Table 19: Summary of the Average Grade Placement, Grades, Current and Anticipated Mean Scores, and Selected Correlations for Each of the Six Factor Groups

Factor Grp	N	Avrge Grade Placement	Proportion of Males	Avrge Grade in Reading	Avrge Rating For How Good Now			Avrge Rtng For How Good Next Year			Difference Between Now & Next Year			Correlation Between Now & Next Year For		
					Stud	Tchr	Par	Stud	Tchr	Par	Stud	Tchr	Par	Stud	Tchr	Par
1	33	4.42	.52	1.52	4.06	7.06	5.30	2.67	6.00	3.70	1.39	1.06	1.60	.33	*.70	*.77
2	6	5.17	.17	4.00	2.00	1.67	2.67	1.00	1.67	1.67	1.00	.00	1.00	.00	*1.00	.32
3	16	3.94	.88	2.31	3.13	4.88	5.50	2.25	4.50	4.00	.88	.38	1.50	.03	*.86	*.91
4	7	4.14	.29	2.43	4.43	3.57	3.86	3.00	2.71	3.29	1.43	.86	.57	.61	*.83	*.88
5	5	4.80	.00	2.60	4.20	3.40	3.00	3.00	3.40	3.40	1.27	.00	.40	*.00	.64	-.42
6	8	4.88	.88	1.38	6.50	6.50	5.50	4.25	5.50	4.00	2.25	1.00	1.50	*.75	*.94	.38

* Significant at .05 level

Percept of fourth factor group

Factor group 4 had seven students, five girls and two boys. Their average grade placement was 4.14 (See Table 19), with a reading grade average of C+ ($\bar{x} = 2.43$). They perceived their current performance as slightly above average ($\bar{x} = 4.43$) and they anticipated that they would be very good ($\bar{x} = 3.00$) next year. As pointed out earlier, the 1.5 standard does not apply to this group. However, all the differences were less than 1.49 except one. It appears that this group tended to take its cues from parents and teachers. This is true even though they did not rate themselves as high as their teachers or parents did. The teachers' percept of this group's current performance was about average to very good ($\bar{x} = 3.57$) and they anticipated that these students would improve slightly and be very good ($\bar{x} = 2.71$) next year. The students' parents rated students current performance between very good and average ($\bar{x} = 3.86$) and anticipated that their performance would be very good ($\bar{x} = 3.29$) next year.

It may be concluded that these students generally had a feeling of low self-esteem. Their self-concept was primarily derived from their parents and teachers. Moreover, Table 16 shows that they rated themselves lower than any other factor group in their current and anticipated performance in arithmetic and in their anticipated performance in sports.

Percept of fifth factor group

Factor group 5 consisted of five girls with an average grade placement of 4.8 (See Table 19). Their average reading grades were C+ ($\bar{x} = 2.60$). They perceived their current performance as slightly better than average ($\bar{x} = 4.20$) and their anticipated performance in reading for next year was perceived as being very good ($\bar{x} = 3.00$). Their parents and teachers agreed with this percept. The parents, however, tended to rate the anticipated performance ($\bar{x} = 3.40$) a little lower than the current performance ($\bar{x} = 3.00$). This group was similar to Factor group 2 in pattern of agreed response. However, they did not share the positive self-percept, in spite of a C+ ($\bar{x} = 2.8$) average in spelling and a C+ average in reading. They rated themselves lower than any other factor group in science and talking in front of the class. In addition, their rating of anticipated performance in social studies was the lowest of any group. Their teachers rated this group lowest in current and anticipated performance in sports next year.

Percepts of sixth factor group

Factor group 6 consisted of seven boys and one girl with an average grade placement of about 5 (See Table 19). Their average reading grade was D+ ($\bar{x} = 1.38$). Their current percept of their reading achievement was not so good ($\bar{x} = 6.50$), but they anticipated that they would be about average next year. Their parents and teachers tended to perceive these students' current and anticipated performance about the same. Parents did tend to have a slightly higher assessment of both the current average ($\bar{x} = 5.50$) and anticipated performance ($\bar{x} = 4.00$). The students in this group rated themselves lower in reading than any of the other groups. They also rated their current and anticipated performance in spelling and handwriting lower than the other groups. In addition, their current percept of their social studies achievement was rated lower along with the teachers' lowest rating of their current performance in handwriting. Their parents rated them lower than all groups except one in reading and current spelling performance.

This group apparently has based its self-concept on information obtained from teachers and parents. This factor group may have at least two subgroups - the first might be realistic and ready to receive help and they can be motivated, while the second subgroup might have completely given up and should prove highly resistant to improvement.

Summary of percepts of the six factor groups

It may be concluded from this detailed analysis that caution should be used in generalizing about any group of 50 to 100 children in grades 3 - 6 about their self-concept. It is also apparent from this analysis that the six groups demonstrated sufficient variability in response to provide support to the advocates of diversified curriculum and scheduling of students. Essentially, factor group 1 rated itself above average in spite of its parents' and teachers' percepts, while group 2 (mostly girls) had a very good self-percept which was justified by their parents' and teachers' rating. Factor group 3 (mostly boys) had a strong self-concept which apparently was a product of their perceived ability in sports and social studies. The students in factor group 4 appeared to have an inadequate self-concept. This was true in spite of their C+ average grade in reading and their parents' and teachers' rating, which was between average and very good. Factor group 5, which consisted of all girls, had a pattern of responses similar to that of factor group 2. They did not perceive their achievement as positively, however, and reflected a lower self-concept. Their teachers' percept of them in sports seemed to provide the basis of this feeling. The students in factor group 6 did not have a positive self-concept. They tended to be viewed by their parents as a little better than by themselves or by their teachers. As a group, it appeared that these students supported teachers' percepts, while parents had higher expectations than the current level of performance warranted.

Ego-involvement in the classroom

Conclusion

Many studies have demonstrated the practical implications of ego-involvement in the classroom. In one of the most significant demonstrations of this concept, Sears (1941) showed that children with a past history of success were quite similar in their goal-setting behavior. In her study, reading and arithmetic were used as the content areas investigated. All the students tended to try for scores close to but slightly better than those which had just been achieved. From the point of view of the teacher, Sears' findings and the results of the CAREL study have potential for the development of instructional strategies, for they indicate that children with a history of successful performance behave in a manner which is predictable and to that extent the learning situation is under control.

Level of aspiration

The findings of the study reported here reveal that the relation between the reported level of aspiration (anticipated achievement) and the level of performance (outside standard, knowledge of previous success or results, grade, teachers, and a parent's percept) differs widely among individuals and seems to represent a reliable and general personality trait. The findings suggest that in the process of good teaching, it is necessary to set the instructional task at a level which is appropriate for the learners within each of the six factor groups' "levels of aspiration." Other studies have shown that in order to achieve an optimum "level of aspiration" the teacher should create a learning experience which:

1. Keeps the level of aspiration as high as possible
2. Avoids failure, and
3. Holds the level of aspiration in close agreement with a realistic estimate of performance

Motivational interests of the individual

The motivational interests of the particular individual or group must be considered by the teacher prior to the establishment of goals. There are many variables of motivational interest and they differ among groups. These variables include:

1. The difficulty of the task for an individual
2. His previous successes or failures in other or similar tasks, and
3. His usual self-esteem, including his degree of confidence in his ability to attain goals.

Personality variables

These and other variables have been either established or have been suggested as significant in various studies of levels of aspiration. Rothlingshafer (1963) for example, has identified personality variables which have been studied as possible determinants of level of aspiration. They are:

1. Anxiety tendencies
2. Strength of need to achieve
3. General adjustment, and
4. Self-esteem

These personality variables may be used as a basis for forming questions which can be used to create strategies of instruction for each of the factor groups or for an individual student. For example, the following five concepts, difficulty of task, previous success or failure, self-esteem, need to achieve, and general achievement, have been used in the construction of five questions. These questions and answers for each of the factor groups appear in Table 20. The particular characteristics of performance in reading was considered for each group as the questions were answered. Answers to such questions plus a thorough assessment of the actual reading achievement would form a good diagnostic procedure prior to the development of an instructional plan. It may be seen from Table 20 that there is no one question that was answered in the same way for the six groups. When an analysis of questions 2 and 3 are

A vehicle for change

considered for group 3, the teacher may capitalize on the positive feeling of self-esteem to motivate the students in reading. The method may vary and there may be some reluctance on the part of some teachers to change their percept on students in this category. There is, however, for those teachers who wish to use this information, a vehicle for changing parents' percepts and for using the students' perceived success in sports as a motivating device in the classroom.

Table 20: Summary of Assessment of the Six Factor Groups and Five Diagnostic Questions Relating to Motivation regarding Reading Achievement

Questions	Factor Groups					
	1	2	3	4	5	6
1. Are the tasks associated with the lessons too difficult?	Yes	No	No	No	No	Yes
2. Has there been previous success with the task?	No	Yes	No	Yes	Yes	No
3. Is there a positive feeling of self-esteem?	Yes	Yes	Yes	No	No	No
4. Is there a need to achieve?	No	Yes	Yes	Yes	Yes	No
5. Is the general adjustment satisfactory?	No	Yes	Yes	Yes	Yes	No

Administrative Role

Given this information, what role should the school administrator play in the use of such data? There may be many answers to this question. However, for the purposes of this paper, discussion will be kept to three critical questions the administrator might ask. These questions, as noted earlier in this chapter, are:

1. Who actually sees the child as he is?

2. Whom do you change?

3. What do you do about the difference in perception?

Tasks for administrators

The results of the study indicate that differential treatment of the six factor groups is required. This creates what might be viewed as too great a task for administrators to resolve. Actual solutions, however, may not be difficult to determine for each group. For example, when there is commonality of percepts within a group among student, parent and teacher, these three questions would have to be reassessed. If the percepts were positive, and achievements justified them, the instructional strategy would be different than if the percepts and achievement were negative. The actual procedures a given administrator would be likely to follow in solving any one of the many problems associated with any group would depend upon his personal value system, his philosophy, and his educational objectives. Group 5, for example, has experienced some success in reading. Yet, its members tend to have an inadequate feeling of self-esteem. This apparently has been caused by their parents' opinions of their performance. In addition, their teachers rate them low in sports.

Careful scrutiny of factor groups needed

The treatment of the 5th factor group in all probability would be different from that of the sixth group. This group did not have a positive feeling of self-esteem and had not experienced previous success. Its grades averaged D+ in reading and parents' ratings as well as the students' own ratings support the students' negative feelings about themselves. If an administrator were to use the answer to question 3 (self-esteem) as the only source of information about grouping the students, it would be possible to confuse at least two conflicting causes of the underlying percepts. In a similar manner, there would be conflict of response on the part of parents if the administrator were to use a single approach toward working with parents of students in the different factor groups.

In conclusion, it is becoming more and more apparent that, as our society evolves into a complex megalopolis and the advantages of centralization no longer outweigh the disadvantages, a system must be established to provide supportive services for teachers and administrators. The system that will evolve must be developmental and adaptive.

It is most probable that the wise use of information and the sophisticated application of computer technology will help in the development of such a needed adaptive system. This study represents only the willingness on the part of a group of educators to tolerate a significant amount of ambiguity in search of a worthwhile method which would give to teachers and administrators manageable information about their students.

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Chapter 5

Professional Staff Encounters

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This chapter describes the development of an instrument, pilot study of that instrument and analysis of data collected to determine decision-making processes of two groups of classroom teachers. The findings may provide a basis for further research of the instrument as well as its utilization in various settings to determine types of teacher contacts, among whom such encounters occur, when and where they occur, the purpose of their occurrence and the subject matter discussed.

INTRODUCTION

Objectives of this part of the study

The major objectives of this part of the study were (1) to develop an instrument that would elicit descriptive judgments about various kinds of encounters between teachers which might be determinants in a decision-making process; (2) to pilot-study such an instrument in order to determine its efficacy; and (3) to report the results of the study.

Teacher staff encounter instrument

The teacher's staff-encounter instrument was developed by staff members of the Central Atlantic Regional Educational Laboratory (CAREL). Two representative inner-city elementary schools were selected (one a public school and the other a non-public school) to field test the instrument and obtain data relative to decision-making processes at these institutions.

For the purposes of this study an encounter was defined as any formal or informal meeting, contact, discussion or dialogue between two or more members of the professional and supportive staff of the school, for professional reasons.

METHODS, PROCEDURES AND ASSUMPTIONS

Distribution of teachers by grade level

Analysis of the data from the "Record of Staff Encounters" completed by 21 teachers in the public elementary school and 12 teachers in the non-public elementary school was accomplished. Table 1 shows the distribution of teachers by grade level within each of the two school and for the combined schools. All teachers available at both schools were utilized in the sample and, as all responded with complete data, the analysis reflects the total teaching population available at those schools. All 33 teachers were females teaching full-time in kindergarten through the sixth grade.

Table 1: Distribution of Teachers on "Record of Staff Encounters" By and Across Schools

	Grade Level							
SCHOOLS	K	1	2	3	4	5	6	TOTALS (All Grades)
Non-Public	1	2	2	2	2	2	1	12
Public	2	5	3	3	4	3	1	21
TOTALS By Grade	3	7	5	5	6	5	2	33

All teachers were asked to record each contact made for a continuous period of five days noting the following items: (1) place; (2) media used; (3) time of day; (4) who requested the meeting; (5) with whom; (6) about whom; and (7) about what. It was possible with the accumulated data from these schools to arrive at descriptive judgments about encounters as determinants in a decision-making process.

Certain assumptions regarding the two schools were necessary before analyses of the data could be performed. It was assumed that the schools used in the study reflect selected characteristics which are representative of both public and non-public elementary schools in Washington, D. C. as follows:

Basic assumptions regarding comparability of the two schools

1. The school personnel (professional and non-professional) are representative of the general learning population on most variables such as:

    a. years of experience of teachers and principal
    b. academic preparation of teachers and principal
    c. teaching loads and non-teaching assignments
    d. the ratio between lay and cleric personnel in the case of the non-public school

2. The curriculum of each school

3. The administrative structure

4. The physical plant (e.g., classrooms, offices, library, playground, faculty lounge)

5. The general composition of the student population

It is fully realized that the foregoing procedure does not meet the specific definition of any sampling theory. And, therefore, no generalizations should be made based on this sample. It was the ultimate purpose of this study to develop an instrument that could be of general use in ascertaining the decision-making process in elementary schools. Further research utilizing the instrument on larger and varied samples should therefore be accomplished before developing generalizations.

ANALYSIS AND RESULTS

Caution regarding size of the sample

The following sections present a topical analysis of results obtained through this study. The reader should be cautioned once again about drawing general conclusions from the results as presented in this section. Given the size of the sample-groups involved, results must be cast within the frame of reference of the population studied. Special caution should be exercised when the reader compares numbers and percentages reported for the two schools. The sample size was not the same in each school and, as the samples are rather small, percentages tend to be amplified in their implications.

Where Encounters Were Held

Table 2 contains a breakdown of the locations of various encounters, the percentage that encounters at given locations represent of the total number of encounters, plus the rank order of frequency of encounter location, by individual schools and in combination. In looking at these percentages, it should be remembered that the number of teachers in each of the two schools differed. The rank order presentation illustrates some differences between the two schools.

Location of encounters

The highest percentage of encounters were within the confines of a classroom for teachers from both schools but encounters made at their place of residence ranked second for non-public teachers while, for the public school sample, encounters in the hall were second in rank order. This result is not surprising since over half of all the non-public school professional personnel, including the principal, share the same residence.

To determine statistical differences between the two groups on the various encounter locations, a "t" test of proportions was computed. Table 3 gives the results and shows differences ranking in significance from the .15 to the .005 level, illustrating that public school teachers had statistically higher encounters in the hall, classroom and office categories. The non-public school teachers were significantly higher in the other five areas including the cafeteria, library, playground, faculty lounge, and the personal residence of the teacher. From these results, it seems reasonable to say that public school personnel had more frequent encounters within the confines of "school" areas while non-public personnel had encounters more frequently in "non-school" areas.

In explanation of these differences, some particular limitations of the facilities in the public school involved in this study should be

Table 2: Places Where Teachers' Staff Encounters Were Held in Each of the Two Schools and in the Two Schools Combined

School		Place of Encounter									Total Encounters
		Hall	Class-room	Office	Cafe-teria	Li-brary	Play-ground	Faclty Lounge	Prsnl Rsdnce	Other	
Non-Public School (12 Teachers)	Number	28	94	13	4	10	8	4	57	13 N_1	231
	Percent	P_1 12.12	40.69	5.62	1.73	4.32	3.46	1.73	24.67	5.62	100.0%
	Rank order of frequency	3	1	4	8	6	7	8	2	4	
Public School (21 Teachers)	Number	77	267	35	3	8	6	1	29	15 N_2	441
	Percent	P_2 17.46	60.54	7.93	0.68	1.81	1.36	0.22	6.57	3.40	100%
	Rank order of frequency	2	1	3	8	6	7	9	4	5	
Combined Groups (33 Teachers)	Number	105	361	48	7	18	14	5	86	28	672
	Percent	15.62	53.72	7.14	1.04	2.67	2.08	0.74	12.79	4.16	100%
	Rank order of frequency	2	1	4	8	6	7	9	3	5	

Table 3: Test of Proportions Between the Two Sample Groups on Each of the Places Where Encounters Were Held[1]

School		Place of Encounter								
		Hall	Class-room	Office	Cafe-teria	Li-brary	Play-ground	Fclty Lounge	Prsnl Rsdnce	Other
Non-Pub.	Rank Order of Freq.	3	1	4	8	6	7	8	2	4
	No. of Encounters (n=231)	28	94	13	4	10	8	4	57	13
	Prop. of Total	.1212	.4069	.0562	.0173	.0432	.0346	.0173	.2467	.0562
Public	Rank Order of Freq.	2	1	3	8	6	7	9	4	5
	No. of Encounters (n=441)	77	267	35	3	8	6	1	29	15
	Prop. of Total	.1746	.6054	.0793	.0068	.0181	.0136	.0022	.0657	.0340[2]
Standard Error of Mean Difference		.1562	.5371	.0713	.0104	.0267	.0208	.0073	.1279	.0416[2]
Value		-1.8936	-4.9625	-1.1550	4.7236	2.5100	2.1000	2.0685	6.8560	1.5744
Level of Significance		.05	.005	.15	.005	.01	.025		.005	.10

[1] Positive "t" values indicate a higher proportion of encounters favoring the public school personnel. Negative "t" values indicate a proportion favoring the non-public school personnel.

[2] Rounding error accounts for proportions not equalling 100.

noted:

Explanation of differences

1. There is no cafeteria in the public school. A lunch room which is slightly larger than an ordinary classroom and is used from time to time by the students of combined classrooms may account for the marginal number of encounters recorded under this heading.
2. There is no library in the public school. There is, however, a small reading room used by the remedial reading instructor. This may account for the marginal number of encounters held in the library.
3. Compared to the large open space available to the non-public school, the public school in this case only has a small fenced-in area which cannot hold many classes at one time.
4. There is no faculty lounge in the public school. There is only a small cloakroom where teachers' mail boxes are located.

Summarized encounters and decisions

Table 4 presents the number of staff encounters summarized by teachers and the number of those summarized which resulted in decisions at each grade level and for both schools. Teachers had been asked to summarize the "major" encounters each day, noting whether a decision had been reached relative to the purported reason for the encounter. The percentage of encounters summarized for which decisions were noted is shown in the table. It would appear that a slightly higher percentage of decisions were reached in the non-public school (78.9%) than in the public school (72%), but, again, the size of the sample must be borne in mind before reaching any conclusions. Decisions were made in 100% of the summarized encounters for Kindergarten, third and fifth grades in the non-public school, while the highest percentage in the public school was 95% for fourth grade. On the other hand, only 33% of the summarized encounters led to decisions in the non-public school, for first grade, while the lowest percentage of decisions reached in the public school was 52.5%, for fifth grade.

Percentage of summarized encounters

Table 5 presents a summary of the data of Table 4, for each of the two schools and for both of them combined. In addition, the average number of encounters summarized by teachers is given, per teacher, and the percentage that the number of encounters summarized by teachers represents of the total number of encounters is presented for each school and for both combined. According to these figures, the percentage summarized by public school teachers (32.42%) was almost twice the percentage summarized by non-public school teachers (16.45%), which is also reflected in the average number of encounters summarized per teacher (3.2 for non-public and 6.8 for public).

Media Used for Teachers' Staff Encounters

Table 6 gives data by individual school and combined schools regarding the methods used (media) to facilitate the encounters. In person encounters accounted for 87.8% (590) of the 672 made by the 33 teachers in both schools. Telephone encounters totaled 82 or 12.2% for

Table 4: Number of Encounters Summarized and Decisions Made by Grade within Individual Schools

Grade Level	Staff Encounters						Number Summarized		Decisions Made			
	Non-Public			Public			Non-Public	Public	Non-Public		Public	
	No. of Tchrs	No. of Encounters		No. of Tchrs	No. of Encounters				No.	%	No.	%
		Tot	Per Tchr.		Tot	Per Tchr.						
K	1	10	10	2	36	18	4	6	4	100	5	83.3
1	2	20	10	5	90	18	3	27	1	33.3	24	88.9
2	2	40	20	3	42	14	8	12	6	75	9	75
3	2	37	18.5	3	69	23	8	12	8	100	11	91.7
4	2	46	23	4	68	17	6	20	5	83.3	19	95
5	2	37	18.5	3	99	33	3	59	3	100	31	52.5
6	1	41	41	1	27	27	6	7	3	50	4	57.1
Totals	12	231	19.25	21	441	21.0	38	143	30	78.9	103	72

Table 5: Total Number of Encounters vs. Summarized Encounters vs. Encounters in Which Decisions Were Made

School	No of Tchrs	Total No. of Encntrs	Average Encntrs per Teacher	No. of Encntrs Summarized	Average No. of Encntrs Summarized per Teacher	% of Total No. of Encntrs Summarized	No. of Decisions Made from Summarized Encntrs	% of Summarized Encntrs with Decisions
Non-Public	12	231	19.25	38	3.2	16.45%	30	78.95%
Public	21	441	21.00	143	6.8	32.42%	103	72.03%
Combined Groups	33	672	20.36	181	5.5	26.93%	133	73.48%

Table 6: Media Employed for Encounters and Combined Totals by Individual School

School	Analysis	Media		Totals
		Telephone	In Person	
Non-Public	Number	40	191	231
	Percent	17.32	82.68	100
Public	Number	42	399	441
	Percent	9.52	90.48	100
Combined Groups	Number	82	590	672
	Percent	12.20	87.80	100
Standard Error of Mean Difference		.1206	.8793	
"t" value		2.1475	-3.2786	
Level of Significance		.025	.005	

the Combined Group. A significantly greater number of in person encounters as compared with telephone encounters were made for the Combined Group.

Media for Teacher Staff Encounters

This same trend was evident for each of the two schools where 82.68% of the encounters by the non-public school teachers and 90.48% by public school teachers were in person contacts. Telephone encounters comprised 17.32% of the non-public school personnel and 9.52% of the public school personnel.

Further analysis, using the "t" test of proportions between schools on each of the two conditions, showed that although both groups were predominantly involved with in person encounters, a significant difference favoring public school teachers was found (.005 level on in person encounters. On the other hand, a significant difference was found favoring non-public school personnel (at the .025 level) on telephone encounters.

When Encounters Were Held

Nine temporal categories for encounters

Hourly intervals were utilized to record encounters during the school hours from 9:00 A.M. to 2:59 P.M. One category for before school and two categories for after school encounters completed the selection of time intervals. Data as shown in Table 7 was analyzed by school and by Combined Groups within each of the nine possible time intervals. The nine intervals were then collapsed to four, as noted in Table 8, for further analysis.

A rank order of frequency by time of day showed that both schools had the highest percent of encounters before school. While non-public school personnel had as the second-and-third-most frequent times for encounters the two after school categories, these ranked lowest with public school personnel. A significantly higher proportion of encounters after school was found (at the .005 level) for non-public school personnel than for public school personnel. In four of the six categories during school hours the public-school teachers had a significantly higher (.005 level) proportion of encounters. In the other two categories, no significant differences in proportion of encounters were found.

Four consolidated time periods

Table 8 presents the results of restructuring the time intervals into four categories -- before school, morning during school, afternoon during school and after school. Here, the trends are more pronounced and illustrate significant differences between encounter-times of non-public and public school personnel. Before school encounters (at the .01 level) and after school encounters (at the .005 level) were significantly higher in proportion for the non-public school personnel. Public school personnel had a significantly higher proportion of encounters (at the .005 level) in the morning during school and afternoon during school categories. As might be expected, the rank order of frequency conformed to the same tendency, with before and after school categories ranking highest for the non-public personnel, and morning and

Table 7: Time of Day Teachers Staff Encounters Were Held

Group		TIME OF DAY									Total # of Encntrs
			During School						After School		
		Before School	9:00-[1] 9:59	10:00-10:59	11:00-11:59	12:00-[2] 12:59	1:00-1:59	2:00-2:59[3]	3:00-5:59	6:00-on	
Non-Public[1]	Number	53	11	23	10	27	7	13	42	45	231
	Percent	22.94	4.76	9.95	4.32	11.68	3.03	5.62	18.18	19.48	
	Rank Order	1	7	5	8	4	9	6	3	2	
Public	Number	68	66	52	46	53	49	53	39	15	441
	Percent	15.41	14.96	11.79	10.43	12.01	11.11	12.01	8.84	3.40	
	Rank Order	1	2	5	7	3	6	3	8	9	
	Number	121	77	75	56	80	56	66	81	60	672
	Percent	18.00	11.45	11.16	8.33	11.90	8.33	9.82	12.05	8.92	
	Rank Order	1	4	5	8	3	8	6	2	7	
Standard Error of Mean Difference		.1799	.1145	.1115	.0832	.1189	.0833	.0981	.1205	.0892	
"t" Value		2.510	-41803	-.7540	-3055	-.1352	-4040	-2.8654	3.8278	7.2107	
Level of Significance		.01	.005	NS	.005	NS	.005	.005	.005	.005	

Rounding error accounts for percentages not equalling 100

[1] The school day begins for both schools at 9:00 A.M.

[2] Lunch hour lasts from 12:00-12:59 at both schools although there are three 20-minute sessions for lunch at the non-public school.

[3] Dismissal is at 3:00 P.M. for both schools.

afternoon during school categories ranking highest for public school personnel. These tendencies are graphically presented in Figure 1 which utilizes the data given in Table 7.

Table 8: Four-fold Categorization of Time of Teacher Encounters

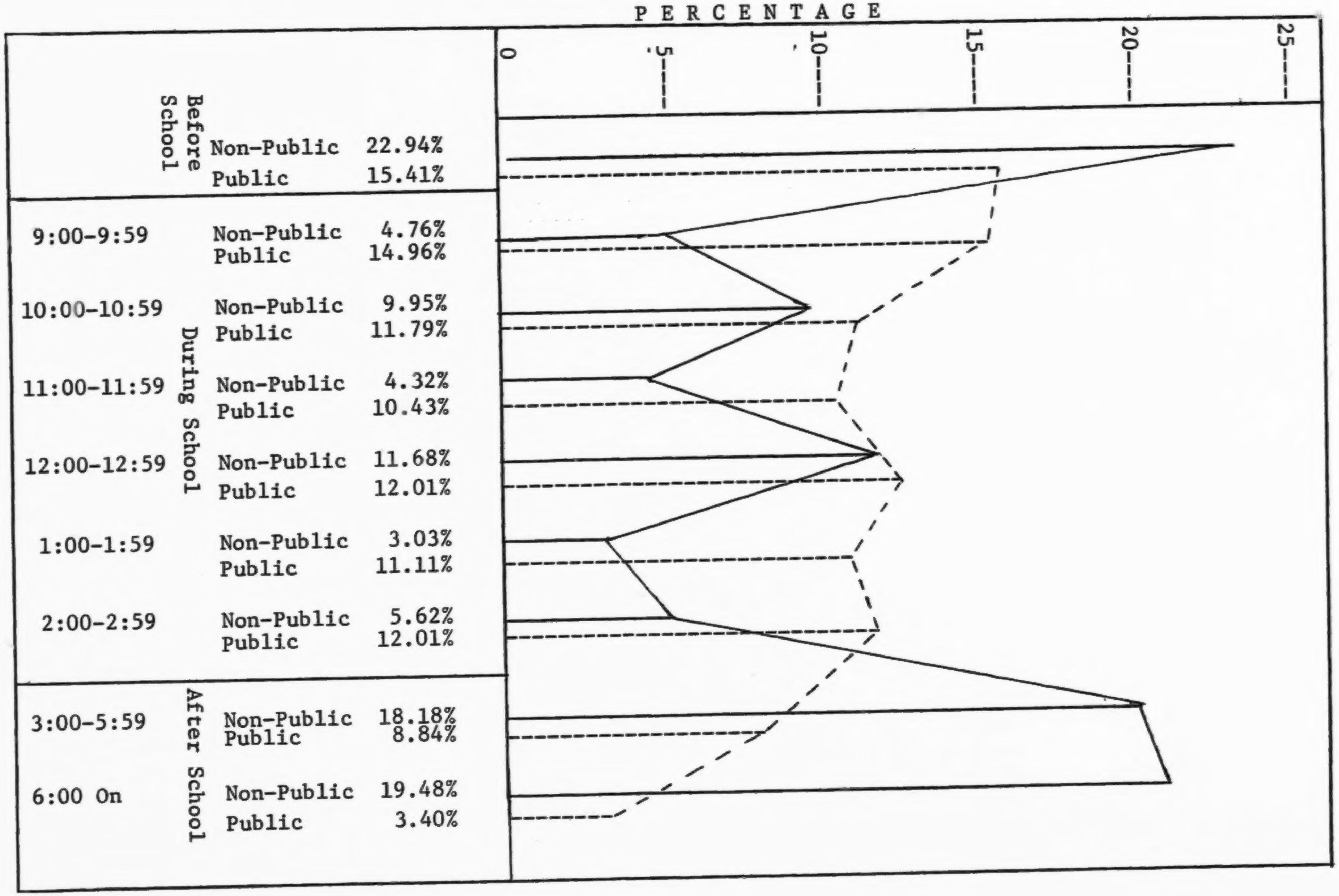
Group	Analysis	TIME OF DAY				Total Number of Encounters
		Before School	Morning During School (9:00-11:59)	Afternoon During School (12:00-2:59)	After School	
Non-Public	Number	53	44	47	87	231
	Proportion	.2294	.1904	.2034	.3766	
	Rank Order	2	4	3	1	
Public	Number	68	164	155	54	441
	Proportion	.1541	.3718	.3514	.1224	
	Rank Order	4	1	2	3	
Total Group	Number	121	208	202	141	672
	Proportion	.1800	.3095	.3006	.2098	
	Rank Order	4	1	2	3	
Standard Error of Mean Difference		.1799	.3094	.3005	.2866	
"t" Value		2.5100	-5.0388	-4.1111	3.7222	
Level of Significance		.01	.005	.005	.005	

Decisions Made as Noted in Summarized Encounter Reports

The main purpose for developing this instrument was to cast light on some aspects of the decision-making process. To this end, as noted earlier, teachers in both schools were asked to summarize their major encounters each day, noting whether a decision had been reached relative to the purported reason for the encounter. Tables 9 and 10 give the results of such summarizations by the time of day in which decisions were made.

Of the 231 encounters by non-public school teachers, 38 were summarized as major encounters (See Table 4) of which 30 or 78.9% terminated

Figure 1: Percentage of Encounters Made by Teachers in Each of the Two Schools at Various Times of the Day



Decision as a percentage of major encounters

with decisions made. Of the 441 encounters by public school teachers, 143 were summarized of which 103 or 72.03% terminated with decisions made. As the number of decisions made is only culled from the major encounters, no attempt was made to arrive at the percent of total encounters terminating with decisions. As noted, in both Tables 9 and 10, the decisions are reflected as a percentage of the major encounters and as a percent of the total number of decisions made within the confines of major encounters. Time of day, as a determining factor, indicates need for further study. After school decisions accounted for 53.3% of non-public school, 17.5% of public school and 25.6% of all decisions in the two groups. Before school decisions did not rank as high with 10% for the non-public school, 10.8% for the public school, and a combined total of 10.5%.

Table 9: Prevalence of Decisions from Summarized Encounters Controlled on Time of Day

Time of Day	Non-Public			Public			Total Group		
	Total Encounters	Decisions		Total Encoun-	Decisions		Total Encoun-	Decisions	
		No.	%*		No.	%*		No.	%*
Before School	53	3	10	68	11	10.8	121	14	10.5
9:00-9:59	11	1	3.3	66	16	15.5	77	17	12.8
10:00-10:59	23	2	6.7	52	10	9.7	75	12	9
11:00-11:59	10	1	3.3	46	12	11.7	56	13	9.8
12:00-12:59	27	5	16.7	53	6	5.8	80	11	8.3
1:00-1:59	7	1	3.3	49	15	14.6	56	16	12
2:00-2:59	13	1	3.3	53	15	14.6	66	16	12
3:00-5:59	42	6	20	39	13	12.6	81	19	14.3
6:00 - on	45	10	33.3	15	5	4.9	60	15	11.3
TOTALS	231	30		441	103		672	133	

Rounding error accounts for percents not equalling 100.

*of summarized major encounters

Table 10: Prevalence of Decisions from Summarized Encounters Controlled in Categories of Time of Day

Time of Day	Non-Public			Public			Total Group		
	Total Encounters	Decisions		Total Encounters	Decisions		Total Encounters	Decisions	
		No.	%*		No.	%*		No.	%*
Before School	53	3	10	68	11	10.5	121	14	10.5
9:00-11:59	44	4	13.3	164	38	36.9	208	42	31.6
12:00-2:59	47	7	23.3	155	36	35.0	202	43	32.3
After School	87	16	53.3	54	18	17.5	141	34	25.6
TOTALS	231	30		441	103		672	133	

Rounding error accounts for percents not equalling 100.

*of summarized major encounters

Spearman's rank correlation of encounters and decisions over time

A Spearman's Rank correlation was accomplished by schools and by combined groups between the rank order of encounters and decisions by time of day. The correlation between the two variables for the non-public school personnel was 7.8584. For the public school personnel the correlation was .3042 while for the combined group a correlation of .0625 was computed as noted in Table 11.

Table 11: Rank Order of Frequency of Encounters and Decisions with Correlation by School & Total Group

Group		TIME OF DAY									r
		Bfre Schl	9:00-9:59	10:00 10:59	11:00 11:59	12:00 12:59	1:00 1:59	2:00 2:59	3:00 5:59	6:00 on	
Non-Pblc	Encntrs	1	7	5	8	4	9	6	3	2	8584
	Dcsions	4	6	5	6	3	6	6	2	1	
Pblc	Encntrs	1	2	5	7	3	6	3	8	9	3042
	Dcsions	6	1	7	5	8	2	2	4	9	
TOTAL	Encntrs	1	4	5	8	3	8	6	2	7	0625
	Dcsions	6	2	8	7	9	3	3	1	5	

It can be said from these results that the frequency of decisions was directly related to the number of encounters within time of day categories for the non-public school personnel. The same results were not found for public school personnel where the estimated correlation was low. Thus, it can be stated that, after rank ordering the frequency of decisions and encounters by school within time of day categories, a high relationship was found for non-public school teachers, while no relationship was found for public school teachers as to whether the time of day had anything to do with the number of decisions made.

With Whom Encounters Were Made

Personnel encountered

As noted in Table 12, encounters with other teachers were highest in frequency for both non-public school teachers (49.56%) and public school teachers (27.89%). In terms of rank order of frequency mentioned by non-public school personnel encounters with parents (16.81%), principal (13.79%), other (9.05%) and aides (3.8%) form the order of importance. The top four after other teachers in rank order of frequency mentioned by the public school personnel were other (23.35%), special teachers (14.28%), parents (11.79%), and principal (8.40%).

Encounters with nonprofessional personnel (aides, volunteers, secretaries) accounted for 9.89% of the non-public school and 12.01% of the public school personnel encounters. External encounters with parents accounted for 16.81% of the non-public school contacts and 11.79% of the public school contacts. Professional encounters were the greatest in frequency or percentage as might be expected due to the number of professionals with whom contact was possible. The non-public school teachers had 65.93% of their encounters with professional personnel while the public school teachers had 55.55% of their encounters with professional personnel.

Significant differences were found via a "t" test of proportions between the two schools on most categories. Of particular significance are the following:

1. More contact with Principal by the non-public school teachers (.01 level).
2. More contact with Special Teachers by the public school teachers (.005 level).
3. More contact with Parents by the non-public school teachers (.05 level).
4. More contact with Other Teachers by the non-public school teachers (.005 level).

Types of Persons Discussed During Encounters

Persons discussed

Excluding the other category, the non-public school teachers had more encounters about one child (28.01%), entire class (19.39%) and small group(s) (16.3%) than about any other category. In rank order of frequency, encounters about parents (.43%) rank lowest with nonprofessional

Table 12: Persons Met in Teacher Staff Encounters

Type of School	Analysis	Individual with whom Encounter was Held										
		Principal	Aide	Volunteer	Supervisor	Special Tchrs	Sec'y	Parents	Nurse	Librarian	Other Tchrs	Other
Non-Public	Number	32	9	8	0	3	6	39	1	2	115	21
	Percent	13.79	3.87	3.44	0	1.29	2.58	16.81	0.43	0.86	49.56	9.05
	Rank Order	3	5	6	11	8	7	2	10	9	1	4
Public	Number	37	27	5	1	63	21	52	6	15	123	103
	Percent	8.40	6.12	1.13	0.22	14.28	4.76	11.79	1.36	3.40	27.89	23.35
	Rank Order	5	6	10	11	3	7	4	9	8	1	1
Total Group	Number	69	36	13	1	66	27	91	7	17	238	124
	Percent	10.26	5.34	1.93	0.14	9.80	4.01	13.52	1.04	2.52	35.36	18.42
	Rank Order	4	6	9	11	5	7	3	10	8	1	2
Standard Error of Mean Difference		.1021	.0536	.0190		.0989	.0402	.1348	.0104	.0254	.3520	.1852
"t" Value		2.4170	-1.3005	2.3100		-5.8251	1.5460	1.9015		-2.5400	5.7941	-4.7666
Level of Significance		.01	.10	.025		.005	.10	.05		.01	.005	.005

staff (1.29%) second from the bottom and professional staff (4.74%) third from the bottom. (See Table 13).

The public school personnel also had encounters about one child (30.61%) most frequently, with entire class (24.26%) ranking second and small group(s) (14.51%) ranking third. Lowest in frequency and rank order were nonprofessional staff (1.81%), parent (2.04%) and professional staff (2.94%).

A relatively large percentage of both non-public school encounters (20.25%) and public school encounters (13.37%) could not be categorized by a more specific term than "other." It would seem that such a finding might call for a larger number of categories to allow for more specific tallies of encounters to be made.

Significant differences were found via a "t" test of proportions between schools on the following categories:

1. More encounters dealing with the entire class were made by public school teachers (.10 level).
2. More encounters dealing with professional staff were made by the non-public school teachers (.15 level).
3. More encounters that had to be categorized as "other" were made by non-public school teachers (.025 level).

Subject Matter Discussed During Encounters

Subject matter discussed

Possible reasons for encounters were listed within the instrument and a check in the appropriate box by the respondent was requested. The category "other" again received a large number of responses as noted in Table 15. The non-public school checked 23.27% of their encounters in this category while public school personnel checked 24.03% in this manner. It would seem that the results again demonstrate a need for adding to the original categories to allow for more specific tallies of encounters which would permit an objective appraisal of a larger percent of the results.

The category "other" was excluded from the rank order presentation noted in Table 14. Of the other eight specifically definable categories, the non-public school teachers ranked discipline (23.27%) as the number one reason for encounters, followed by curriculum (18.96%) and scheduling (16.37%). At the bottom of the rank order these teachers checked meetings (4.74%. This was preceded by administrative problems (6.46%) as the second least important reason for encounters.

Public school personnel ranked child's welfare (24.26%) as the most frequent reason for encounters followed by scheduling (16.78%) and instructional materials (13.83%). The least important reason for public school teacher encounters was meetings (4.30%) followed by curriculum (5.66%) which was sixth in rank order of importance.

Table 13: Types of Persons Discussed in Teacher Staff Encounters

School	Analysis	Individual for Whom Encounter Was Held								
		One Child	Small Group	Entire Class	Parent	Nonprof Staff	Several Classes	Entire School	Prof Staff	Other
Non-Public	Number	65	38	45	1	3	15	14	11	47
	Percent	28.01	16.37	19.39	0.43	1.29	6.46	6.03	4.74	20.25
	Rank Order	1	4	3	9	8	5	6	7	2
Public	Number	135	64	107	9	8	26	36	13	59
	Percent	30.61	14.51	24.26	2.04	1.81	5.89	8.16	2.94	13.37
	Rank Order	1	3	2	8	9	6	5	7	4
Total Group	Number	200	102	152	10	11	41	50	24	106
	Percent	29.71	15.15	22.58	1.48	1.63	6.09	7.42	3.56	15.75
	Rank Order	1	4	2	9	8	6	5	7	3
Standard Error of Mean Difference		.2954	.1526	.2227	.0138	.0159	.0612	.0729	.0367	.1617
"t" Value		-.6951	.6595	-1.4712		-.5200	.3294	-1.0650	1.2765	2.2933
Level of Significance		NS	NS	.10		NS	NS	NS	.15	.025

NS = Not Significant

Table 14: Subject Matter Discussed during Teacher Staff Encounters

		Subject of Encounter								
School	Analysis	Disci-pline	Curric-ulum	Diag & Eval.	Instrct Mtrls	Schdlng	Meet-ings	Child's Welfare	Admin. Prblms	Other
Non-Public	Number Percent Rank Order	54 23.27 1	44 18.96 2	22 9.48 5	17 7.32 6	38 16.37 3	11 4.74 8	25 10.77 4	15 6.46 7	54 23.27
Public	Number Percent Rank Order	50 11.33 4	25 5.66 6	28 6.34 5	61 13.83 3	74 16.78 2	19 4.30 9	107 24.26 1	20 4.53 7	106 24.03
Total Group	Number Percent Rank Order	104 15.45 3	69 10.25 5	50 7.42 6	78 11.58 4	112 16.6[illegible] 2	30 4.45 8	132 19.61 1	35 5.20 7	160 23.77
Standard Error of Mean Difference		.3567	.1049	.0748	.1140	.1665	.0440	.1935		
"t" Value		4.5227	5.9641	1.8150	-2.9192	-.1553	.3120	-4.7836	1.3687	
Level of Significance		.005	.005	.05	.005	NS	NS	.005	.10	NS

NS = Not Significant

Significant differences were found via a "t" test of proportions between the two schools on the following categories:

1. More encounters about discipline by the non-public school teachers (.005 level)
2. More encounters about curriculum by the non-public school teachers (.005 level)
3. More encounters about instructional materials by the public school teachers (.005 level)
4. More encounters about the child's welfare by the public school teachers (.005 level)
5. More encounters about diagnosis and evaluation by the non-public school teachers (.05 level)
6. More encounters about administrative problems by the non-public school teachers (.10 level)

Persons who Requested Encounters

Teachers were asked to write in the titles of individuals requesting that encounters be held. A tally of these responses by school and by combined group was made with results found in Table 15.

Initiators of encounters

Those most often mentioned by the combined group included: 1) other teachers (244, or 47.5%); 2) self (212, or 44.9%); 3) principal (60, or 12.7%); 4) parent (59, or 12.5%); 5) counselor (18, or 3.8%); 6) special teacher (17, or 3.6%); 7) aide and librarian (16, or 3.4% for each) and 8) child (10 or 2.1%).

The first four categories in rank order of importance as measured by simple frequency were the same for both groups although in a different order. The non-public school personnel held encounters at the request of: 1) self (86, or 37.2%); 2) other teachers (68, or 29.4%); 3) **principal (26, or 11.3%)** and 4) parent (25, or 10.8%). The public school personnel held encounters at the request of: 1) other teachers (156, or 64.7%); 2) self (126, or 52.3%); and 3) principal and parent (34, or 14.1% for each).

A counselor was available at the public school and accounted for 18 or 7.5% of the encounters requested.

CONCLUSIONS

Purposes of the study

As noted, the major purposes of this study were (1) to develop an instrument to identify and report decision-making processes among teachers; (2) to pilot-study the instrument; and (3) to report the results.

Table 15: Persons who Requested Teachers' Staff Encounters

Type of Personnel Requesting Encounter	Encounters						
	Non-Public School		Public School		Total		
	Number	Percent	Number	Percent	Number	Percent	
Self	86	37.2	26	10.8	212	44.9	*
Other Teacher(s)	68	29.4	56	23.2	224	47.5	*
Principal	26	11.3	34	14.1	60	12.7	*
Other[1]	5	2.2	0	0	5	1.1	*
Volunteer	3	1.3	1	.4	4	.8	*
All	1	.4	0	0	1	.2	*
Research	1	.4	1	.4	2	.4	*
Parent	25	10.8	34	14.1	59	12.5	*
CAREL	1	.4	0	0	1	.2	*
Aide	3	1.3	13	5.4	16	3.4	*
Special Teacher	1	.4	16	6.6	17	3.6	*
Librarian	8	3.5	8	3.3	16	3.4	*
Secretary	1	.4	5	2.1	6	1.3	*
Police	1	.4	0	0	1	.2	*
Delivery Man	1	.4	0	0	1	.2	*
Nurse	0	0	6	2.5	6	1.3	*
*Pupil Prsnnl Wrkr	0	0	4	1.7	4	.8	*
*Dental Hygienist	0	0	4	1.7	4	.8	*
*Counselor	0	0	18	7.5	18	3.8	*
Attendance Officer	0	0	1	.4	1	.2	*
Custodian	0	0	3	1.3	3	.6	*
*Child	0	0	10	4.2	10	2.1	*
PTA President	0	0	1	.4	1	.2	
TOTALS	231	100	241	100	472	100	

1. Not able to break down further

* Categories not included in frequency count

Methods, procedures and sample

An instrument was developed to obtain responses descriptive of teacher encounters, and a pilot study of this instrument was made in one public and one non-public elementary school involving a total of thirty-three teachers. Teachers were asked to utilize the instrument on five consecutive days, relating the types of encounters they had with other professional and support personnel as well as lay members and parents of the community.

Results of the study were presented in a sequence that conformed to the structure of the instrument. Numbers, percentages, rank orders of frequency and "t" tests of proportions were presented for each of the two schools and, where appropriate, for the two schools in combination.

Public school teachers tended to have more encounters within the school building as compared with non-public school teachers whose encounters occurred more frequently in non-academic areas. The highest frequency for media used was for in person encounters in both schools, though a significant difference was found favoring non-public school teachers regarding the use of telephones as the media involved in encounters. Both schools had the highest percentages of encounters before school. Non-public school teachers listed after school as the second and third most frequent times for encounters. This category ranked lowest, however, with public school teachers.

Encounters which culminated in discussions were studied. Results demonstrated that non-public school teacher encounters with the greatest percentage of decisions occurred after school hours. Public school teachers made decisions more frequently from encounters during regular school hours.

Encounters with other teachers ranked highest for both groups. Parents ranked second for non-public school teachers while "other" comprised the second most frequent type of person contacted for public school teachers. More contacts were made with the school principal by non-public school teachers as compared with their counterparts in the public school.

Both groups had the greatest frequency of encounters regarding one child. Parents ranked second with non-public teachers but next to last for public school teachers. Discipline as a category was the reason given most frequently for the encounter by non-public school teachers while public school teachers ranked the child's welfare as the most frequent reason for encounters.

The first four categories in rank order of persons responsible for initiating encounters were the same for the two groups. Those most frequently mentioned included (1) self, (2) other teachers, (3) principal, and (4) parent.

CHAPTER 6

Classroom Ecology

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In this chapter, the relation between the time-sampled observation instrument, designed by the author, and the perennial goal of educational research -- the assessment of the relative effectiveness of instructional strategies and learning environments -- is explored. The instrument is described in terms of its foci of observation, the techniques required to use it well, and the many purposes which have been served by its use. A number of studies are outlined, illustrating, at one and the same time, the usefulness of this approach and the variety of ecological data it can make explicit for decision-making purposes in the educational process.

INTRODUCTION

Educational research and the testing of variants

The goal of educational research often is to describe current practices or to assess the relative effectiveness of one or another approach to classroom instruction or of one or another total learning environment. Frequently studies are designed to test variant program A against variant program B. Elaborate "ground rules" are established for the conduct of each of these variants. Perhaps there is even a special training program for participating teachers. Then the study is launched, with a pre-test or two. Some time elapses during which variant A and variant B are assumed to be operative, and finally, there is a post-test. Appropriate statistical tests are applied in order to decide whether there were no significant differences in pupil outcomes or, on the other hand, whether students in variant A might have achieved at better rates than those in variant B, or vice versa.

Need to know the cause of non-significant differences between variants

The basic weakness in many such studies is that no one really knows whether variant A really differed operationally from Variant B in any significant sense, despite all good intentions to make them different. The research worker, confronted with non-significant differences between the presumably different methods, does not know whether the non-significance is attributable to the fact that there really were not any differences at all between the two variants in action, or to the fact that, although the variants really differed from one another, their specific dissimilarities could not produce different results in respect to the criteria and analytical methods used.

Solution through detailed description of variants in action

The obvious solution to this dilemma is to secure a detailed description of each variant in action, that is, to ascertain whether teachers do the same or different things in each variant, whether pupil activities are identical or unlike, whether the materials of instruction used and the manner of their use are similar or dissimilar, and whether the use of whole class or small group instruction is more frequent in one variant than in another.

Additionally, it may be important to be able to describe the kind and amount of difference, if any, in the patterns of interaction between teacher and pupil or in other salient features of the total learning setting, whether in the classroom itself or in the school in general.

Recording the detail of classroom ecology is important

It goes, almost without saying, that, unless two learning settings differ in terms of teacher behavior and pupil behavior, materials in use, classroom interaction and configuration patterns, one would hardly expect to discover differences in outcomes for matched groups of students. In other words, the detail of the classroom ecology is important to record and analyze in any study in which it is presumed that variant approaches to the educational process are presumably being exemplified.

Origin of the "time-sampled observation procedure"

This chapter describes the development of a procedure and of an "adjustable" instrument for describing the ecology of the classroom in terms of overt behaviors that are the constant features of classroom activity in almost any school -- the differences between the schools or classrooms in them varying mainly in terms of the frequency of occurrence of specific behaviors on the part of teachers and pupils. The method avoids the use of esoteric constructs for describing the classroom setting. Instead, it uses the very familiar vocabulary of the classroom. Its findings are therefore usable "in the clear," without need for translation from constructs to operational definitions. The method has been dubbed "the time-sampled observation procedure" for describing complex educational settings. It originated not to describe two variant situations such as those to which the foregoing comments refer, but rather to ascertain what the prevailing curriculum practices of a big school system were at a given point in time, in this case, in the Spring of 1961. The question at that time was: "Where is our school system in terms of its modal instructional activities and in terms of what the students are being stimulated to do in the process of becoming educated." The goal was to secure baseline information on the prevailing curriculum practices, to provide a spring-board for change and forward movement in the instructional program of a system which at the time had approximately 100 schools and upwards of 90,000 students.

It was after this development and first application of the time-sampled observation procedure that its application was made to quasi-experimental designs. In the past seven or eight years the procedure has proved useful in a wide variety of studies, as will be described late in this chapter.

The procedure is comprised of two essential ingredients:

Two essential ingredients of the procedure

1. A minutely detailed observation schedule and a supporting system for reporting observed activities in numeric code.

2. A plan for sampling observations so that the observations are randomized both as regards school and classroom observed and time of the month, week and day of each observation.

The central premise is that if, out of a relatively large number of observations in a given grade in an elementary school or in a given subject area in a secondary school, one observes through this process that teachers are providing, say, individualized instruction only X number of times, one can assume that the frequency of occurrence of that activity in all such classrooms is computed by the formula:

$$\frac{\sum \text{occurrences observed}}{\text{N of observations made}}$$

(sum of the occurrences observed divided by the number of observations completed). In other words if, out of 500 observations in a representative sample of 11th grade history observations over time, one finds only five occurrences of teachers using maps, one can assume that, in general, maps are used about 1 per cent of the time in the teaching of U.S. History in grade 11. Or, to give another example, if, in 1,000 time-sampled observations of elementary classrooms one finds 30 occurrences of audio-visual equipment in use, one can assume that audio-visual equipment is used about 3 per cent of the time for instructional purposes in the elementary schools.

Formula for the frequency of occurrence of observed activities

THE NATURE OF THE OBSERVATION

We have just noted examples citing 500 observations and 1,000 observations. These numbers may strike the reader as logistically unmanageable.

As observations usually go, getting this number of observations would pose insurmountable problems in almost any school system and would, in addition, be costly beyond reasonable expectation of budgetary support.

The reason that one can talk in terms of such large numbers of observations is that each observation is a "candid camera shot." Once the observation schedule has been created and the research team has been trained and put into the field, each observation requires only one or two minutes, followed by perhaps a five-minute period for completing the observation report form.

The "candid camera shot"

In fact, each observation is both initiated and completed as soon as the observer has had time to enter the room and, while doing so, to sweep her eyes from teacher, to students, to classroom environment. The additional time required by a given observation is devoted to writing, on a report form, coded data describing the action in progress exactly at the moment of entry.

Number of observations possible per day per observer

In the course of using the time-sampled observation procedure, it has been found feasible to accumulate observations at the rate of upwards of 22 per day per observer, allowing 15 minutes for observing, recording the coded data, and walking to the next classroom to be observed.

Using a team of four field workers working half time each -- all experienced teachers trained for the observed activities -- we have secured as many as 1,900 observations in a two-month period for a given study.

THE OBSERVATION SCHEDULE

Possibility of reporting specific configurations and activities

There is nothing new about observation schedules. However, the observation schedule used in the time-sampled observation procedure is unique in that it attempts to include opportunity for reporting, at an operationally meaningful level of specificity, any and all details of the configurations and activities of all persons in the classroom, as well as the use of materials of instruction and learning and other key attributes of the total learning setting.

For example, the observation schedule is designed to enable the observer to turn in a report (in code, of course) that may, in narrative form, run as follows:

The meaning of coded data

> The teacher was talking, and was writing on the board about content involving algebraic skills. One-third of the pupils were expected to be attending to her exposition and were taking notes. A group of six of the remaining 20 students was constructing, as a drawing, a model for solving equations by a graphic method. A group of four students was doing independent reading, each in a different text. Ten students were working, each at his own desk, on the solution of problems presented in the same algebra textbook.

The observation schedule must, with equal ease, be usable to describe a classroom situation in which the teacher is working at one pupil's side, while most of the other students are working on individual language arts assignments, out of a variety of textbooks, while one small group of children is working on a display and another small group is off by itself doing nothing constructive (perhaps even disruptive).

The original observer's code book

The original observation schedule created in 1961-62 was a six-page instrument, called the Observer's Code Booklet. It was developed, over a five-month period by the Department of Research, supported by the active participation of forty subject area supervisors, curriculum specialists, and teachers serving as administrative interns. The process began with an effort to "brainstorm" a model of the classroom in action. Specific observable actions and features of the classroom setting were identified, and one scheme after another for classifying the specifics into manageable categories was considered, most of them, of course, only to be discarded and replaced.

As the observation schedule took form, it was tried out and revised, to eliminate overlapping categories, to add entries needed to make it more nearly inclusive, and to clarify the meaning of the terms used in it.

The five routine identification items

In its original form, the schedule began with a first page of instructions for reporting five routine identification items: (1) the observer's own identification number, (2) the code number for the schools, (3) the date, (4) the clock time of entry into a class, and (5) the length of the observation in minutes. In addition, the first page provided the code for reporting class configuration upon entry. This code differentiated between the situation involving only one teacher and the situation involving two or more teachers. For the first situation, designated Alternative I on the observation schedule, thirteen different kinds of class configuration were listed, with appropriate code numbers (from 01 to 13). For the situation involving more than one teacher, designated Alternative II, provision was made for reporting the interaction of the teachers present and for reporting pupil configuration (i.e., whether as whole class, small groups, etc.). The first page of the observation schedule also required the observer to report whether the pupils were all working on the same activity (reported as "single activity") or were working on several different activities (reported as "multiple activities").

Teacher activity

The second page of the Observer's Code Booklet provided the codes for reporting teacher activity at the moment of the observer's entry into the classroom. There was provision for coding 18 different major categories of teacher activity: (01) demonstrating, (02) operating audio-visual device, (03) directing, (04) doing classroom routines, (05) talking and listening, (06) talking and writing, (07) talking and illustrating, (08) talking and using instructional aids, (09) talking only, (10) listening and working, (11) listening to and/or observing, (12) reading and writing, (13) reading orally, (14) reading silently, (15) writing at blackboard, (16) writing other than at blackboard, (17) proctoring, and (18) miscellaneous (like conferring with another adult or using the intercom system). Each of these eighteen major categories was designated by the two-digit code number shown in parentheses.

For every category, there were sub-categories. For example, the major category ".01 - Demonstrating" had 19 codable sub-categories; viz., (01) appliance, (02) dance, (03) dramatic or public-speaking procedure, (04) driving procedure, (05) experimental procedure, (06) fine arts technique, (07) foreign language pronunciation, intonation, etc., (08) games, (09) handicraft process, (10) musical instrument, (11) machinery, (12) natural or physical phenomenon, (13) physical education activity, (14) a principle, (15) process or method, (16) singing technique, and (19) tool.

Thus, if an observer, upon entering a classroom, found a teacher demonstrating some appliance, the observer entered the code 0101 in his report for teacher-activity. The first two digits, "01," meant "demonstrating"; the second two digits, "01," meant "appliance." Similar four-digit codes were used to specify that the teacher was, for example, operating a tape recorder (0204), directing a play (0304), arranging furniture (0401), conferring with one pupil (0501), assigning tasks and listing names (0601), lecturing and illustrating (0702), talking and using a scale model (0803), dictating (0903), listening to recitations and grading them (1001), observing a class discussion (1103), reading forms and entering data on them (1201), reading pupil-written materials aloud (1307), reading a magazine silently (1405), working practice exercises on the blackboard (1509), sitting at his desk grading pupils' work (1609), proctoring pupils' work (170[illegible]), or conferring with the principal (1803). These are only eighteen examples of a pool of 115 different descriptions of teacher behavior for which a specific 4-digit code number was provided on the observation schedule. The examples indicate the level of specificity at which it was intended for observers to report teacher-activity.

Pupil behavior

The third page of the observation schedule outlined the codes for reporting what the pupils were doing when the observer entered the classroom. Sixteen major categories of pupil behavior were designated and coded as follows: (01) demonstrating, (02) performing classroom routines, (03) doing large-muscle activity, (04) doing expressive arts, (05) using equipment, specimens, representing, (08) observing teacher-demonstrations, (09) talking and listening, (10) reading and writing, (11) writing only, (12) reading only, (13) listening and repeating, (14) listening and taking notes, (15) listening to, or observing (no other accompanying activity), and (16) speaking only.

These sixteen major categories were, as was the case for teacher-activity, divided into more specific sub-categories. Almost 200 specific four-digit code numbers were available for describing pupil activity at the level of specificity illustrated here: demonstrating a game (0108), routinely moving to or from classroom (0209), doing large-muscle activity in games accompanied by music or chants (0303), simulating job interviews (0409), using cosmetology equipment or supplies (0505), doing various arts and crafts in activity period (0601), making illustrated notebooks (0702), observing the teacher demonstrate an appliance (0801), participating in a panel discussion (0904), reading a textbook and writing answers to questions (1005), writing at the chalkboard (1102), listening to and taking notes from a counselor (1402), listening to regular teacher (1501), speaking during an oral test (1612).

Pupil and teacher vs. pupil alone

The observer recorded pupil-activity twice; first, for the pupil or pupils interacting directly with the teacher and, second, for pupils doing independent activities and not interacting directly with the teacher.

With regard to both the code for teacher-activity and the code for pupil-activity, it was reasoned that when a teacher or a pupil demonstrates anything, he is likely, as part of the demonstration, also to be talking, singing, drawing, writing, performing large-muscle activity, and so forth. Similarly, in performing classroom routines, teacher and pupils may be speaking, listening, or even writing. When observers witnessed an "inclusive" activity like demonstrating, they reported the code for the inclusive activity only, not for the talking, writing, or other activity essential or incidental to the inclusive activity. Members of the survey team report the teacher to be talking only when they observed the teacher doing nothing but speaking -- unaccompanied by writing, reading, illustrating, or any other more inclusive activity of which talking or speaking is an integral part. In other words, for both teacher-activity and pupil-activity, any one of the four simple modes of communicating (talking, listening, reading, and working) is reported as such only if observed in its "pure" state, so to speak.

The original observation schedule required the observer to report the subject area of the observed activity. For the secondary-school observations, the observer merely had to report the code number for official title of course. For observations in the elementary schools, the observer identified the curriculum areas under consideration in each classroom. A two-digit code was used to report the curriculum areas as: (01) arithmetic, (02) art, (03) civics, (04) geography, (05) history, (06) interpersonal relationships, (07) other social studies, (08) room and school activities, (09) handwriting, (10) mechanics of language, (11) composition, (12) literature, (13) reading, (14) spelling, (15) science, (16) physical education, (17) music, (18) foreign language, (19) health and safety, and (20) study habits and skills.

Report of curriculum area

Also on the observation schedule was the instruction to enter into the Observer's Report Form a statement describing the topic being considered when the observer entered the room.

Additionally, the original schedule contained codes for reporting the immediate use to which the teacher was putting the topic as the observer entered the classroom. This code had ten categories: (01) assignment, (02) evaluation, (03) entertainment of pupils, (04) improvement of working situation in the classroom, (05) counseling and advisement, (06) motivation, (07) concept development, (08) application of skills by pupils, (09) skills development and practice, and (10) not applicable. This code, like the codes for teacher-activity and for pupil-activity was, "preferential." In this case, the order of preference was established by the order in which these categories have just been listed. That is, if an assignment of homework or in-school tasks was being made as the observer entered the room, the purpose of the activity observed was reported as an assignment and was coded as either 0101 (homework) or as 0102 (in-school tasks), as the case required. Similarly, for a comprehension check, progress check, or test, it was required that "evaluation" (02--) be reported as the purpose of the activity observed. For both assignments and for evaluations, it may be possible to infer other purposes, like improvement of study skills, the practice of computational skills, and so forth. However, the observable fact was the assignment or the evaluation; and it was the observable fact that the survey undertook to report.

Reporting immediate purpose of classroom activities

The first five major categories in the code for immediate purpose of the observed learning activity are directly reportable from observation without much, if any recourse to interpretation. The 01-category (assignment) and the 02-category (evaluation) have already been discussed. The 03-category (entertainment) is fairly obvious. The 04-category (improvement of working situation in classroom) was intended to refer to obvious instances of disciplining an individual or a class. The 05-category (counseling and advisement) is reduced to fairly concrete meaning by its sub-categories; i.e., study habits, planning educational future, personal grooming, personal advisement, vocational advisement. The last four major categories of this

Interpretation not needed for first five categories code (motivation, concept development, application of skills by pupils, and skills development by pupils) require some degree of interpretation. Reliance was placed upon the intensive training of the survey team to secure among-observer reliability in making these interpretations. The observers have not been required to find an immediate purpose for every observation. It was recognized that there are instances when the search for impressive purposes would be unwarranted -- as, for example, when pupils were moving chairs to form groups. It is expected, also, that there would be occasions when it would have appeared that purpose should have been found but was not obvious enough to be labelled. In order to forestall any tendency on the part of observers to seek impressive goals for every observation, the reporting of immediate purpose, in connection with the original observation schedule, was limited to identifying the occasions on which the immediate purposes actually specified in the code were observed. Forty-six (46) immediate purposes are listed in the code for Teacher Use of Topic at Time of Entry. Whenever an observer saw one of these 46 immediate goals in operation, he reported it by code number. If he did not see one of these 46 immediate purposes operating in a given classroom, the observer was not required to report "other" and then explain. He merely reported "not applicable." The list of 46 immediate purposes of instruction was thus self-limiting. Each item on the list was selected for inclusion because of an expressed interest, among the instructional staff, in documenting how frequently or infreqeuntly teachers use the topic at hand to develop a problem solving skill, to develop a law or principle, to improve a study skill, to assign homework, to test the pupils, or to achieve any of the other immediate outcomes specified in the observational schedule.

Method of securing observer reliability for four other categories

Over the years, most entries in the original observation schedule have been retained. Others have been added.

Additions to the observation schedule

Additions are usually dictated by the specific purposes of the studies involved. If, for example, special interest centers on science instruction in the elementary grades and there is special concern about the use of materials and equipment in science instruction, detail is added to the observation schedule to secure coded data on the frequency of use of science materials like:

scales, weights, balances
microscope, microprojector
weather instruments
specimens -- preserved, micro, inorganic
prepared slides
animals (aquarium)
plants (terrarium)
magnets
electrical materials (wires, switches, dry cells)
simple machines and devices
hand lens
sound equipment
chemicals
attribute block
geometric block

Additionally for a specific study like this, the section in the observation schedule on pupil activities can be expanded to include entries like:

15000	Observing and examining objects
15010	Observing, examining, and commenting
15020	Observing, examining, and notetaking
15030	Observing, examining, and illustrating
15040	Making and observing slides
16000	Observing and speaking (in unison)
17000	Experimenting and observing
17010	Experimenting, observing and commenting
17020	Experimenting, observing and notetaking
17030	Organizing an experiment

Expansion of skills and attitudes section

One of the more significant developments of the observation schedule, in the course of its application to a variety of research studies, has been the expansion of the section intended for use in reporting observed evidence on the development of skills and attitudes, which includes entries for coding:

01. auditory and visual discrimination, observing detail, characteristics
02. analysis techniques
03. vocabulary development
04. oral expression, explaining, describing, reporting
05. (techniques in) getting information, researching
06. determining main ideas or identifying problems
07. comprehension/understanding
08. organizing information systematically
09. drawing inferences or predicting outcomes
10. solving problems, techniques of scientific method
11. expressing ideas or feelings
12. appreciation
13. enjoyment
14. planning
15. making a hypothesis, revising a question or problem
16. evaluating, determining value or significance
17. none or undetermined
18. following directions
19. recognizing and assuming responsibility
20. raising significant questions
21. listening and acquiring facts
22. drawing meaningful generalizations
23. interpreting and using appropriate symbols
24. techniques in operating equipment and using materials
25. exploring, inquiring
26. comparing, seeing relationships
27. recording data with accuracy
28. making precise measurements
29. summarizing
30. experimenting

The foregoing entries were used in the CAREL studies, as is indicated in the appendix to this chapter.

Flexibility of the observation schedule

The point being made is that the observation schedule is not fixed and immutable. Rather, it has a basic core of coded topical headings and specifics under those headings; but it is flexible and can be added to and tailored to the needs of a specific study.

In a recent study of the prevalence and nature of language instruction, not only in English classes but also in other major curriculum areas in Grades 5 and 7 in the Montgomery County (Maryland) Public Schools, the section in the observation schedule was modified to include such specific entries, under the general heading of pupils' skills, as:

- 00 None/Undetermined (games, singing)
- 10 Gathering Information
  - 11 content (reading library book)
  - 12 taking notes/recording
  - 13 locating information in books
  - 14 interpreting symbols
  - 15 library skills
  - 16 research techniques
  - 17 measuring
  - 18 reading for details
  - 19 skimming for total effect
- 20 Word Study/Structural Analysis
  - 21 auditory perception/discrimination
  - 22 visual/perception/discrimination
  - 23 relating visual to auditory
  - 24 phonics (relating letters to sounds)
  - 25 syllabification
  - 26 roots
  - 27 prefixes/suffixes
  - 28 endings/inflections
  - 29 structural effect on meaning
- 30 Language
  - 31 pronunciation
  - 32 parts of speech
  - 33 usage/correct form
  - 34 mechanics
  - 35 synonyms/antonyms
  - 36 vocabulary/meanings
  - 37 choice of words/precision
  - 38 figurative language
  - 39 imagination/expansion

40 Dealing With Information

41 reasoning/logical thinking
42 analyzing
43 interpreting
44 drawing inferences
45 dealing with relationships
46 differentiating/bias/propaganda
47 predicting outcomes
48 criticizing
49 aesthetic appreciation

50 Problem Solving

51 raising questions
52 making hypothesis
53 planning
54 critical thinking
55 cause and effect
56 exploring (things, ideas, information)
57 experimenting
58 computing
59 evaluating

60 Organizing/Communicating Information

61 describing
62 classifying
63 explaining
64 organizing
65 comparing
66 generalizing
67 summarizing
68 expressing ideas
69 creative expression

70 Written Communication (Includes Teacher-Pupil Dialogue re. Written Composition)

71 title/label/caption
72 outline
73 subject matter/content
74 main idea/topic sentence
75 paragraphs/sentences
76 punctuation/capitalization
77 style
78 correct form
79 editing/proofreading

80 Miscellaneous

81 following directions
82 memorizing

INFORMATION YIELDED BY THE TIME-SAMPLED OBSERVATION PROCEDURE

There is still something to say about the training of observers and the procedures for reporting, about the randomization of observation over space and time, and about the analysis of data. These points will be covered later in this chapter.

Example of kinds of data yielded

At this point, let us consider examples of the kinds of data which are yielded by the time-sampled observation procedure.

In one study, the issues were: (1) does class size affect instructional practice in Grade 11 American History, and (2) does class size affect student outcome as measured on a standardized history test?

OUT OF 275 11TH GRADE U.S. HISTORY CLASSES IN MONTGOMERY COUNTY, 60 WERE SELECTED, REPRESENTING ALL LOCATIONS AND CLASSES BEING HELD AT DIFFERENT TIMES DURING THE SCHOOL DAY.

ONE GROUP OF CLASSES CONTAINED 18 STUDENTS EACH; ANOTHER, 25 STUDENTS, AND THE THIRD, 32 TO 34 STUDENTS EACH. THE THREE GROUPS OF CLASSES DID NOT DIFFER AS TO THE PROPORTION OF MEN TEACHERS TO WOMEN TEACHERS, OR AS TO THE TIME OF DAY THE CLASSES MET. THERE WERE NO SIGNIFICANT DIFFERENCES AMONG THE GROUPS AS TO PROPORTIONS OF BOY AND GIRL STUDENTS OR AS TO INTELLIGENCE OF STUDENTS.

AFTER IDENTIFYING THE 60 CLASSES, HELD IN 14 OF THE 16 HIGH SCHOOLS, RESEARCH OBSERVERS FOLLOWED A TIME SCHEDULE BASED ON RANDOM SAMPLE TECHNIQUES. THEY VISITED EACH CLASS SEVERAL TIMES ON EACH DAY OF THE WEEK, AND MADE MORE THAN 1,000 CLASSROOM OBSERVATIONS RECORDING SUCH DATA AS:

WHAT INSTRUCTIONAL METHODS DID THE TEACHER USE? DID HE LECTURE? USE SLIDES AND FILMS? GIVE LIBRARY ASSIGNMENTS OR TESTS?

HOW WAS THE CLASS ORGANIZED? AS A SINGLE UNIT? SMALL GROUPS? INDIVIDUAL ACTIVITIES?

WHAT WERE THE STUDENTS DOING? LISTENING TO THE TEACHER? TAKING A TEST? WATCHING A FILM? DISCUSSING, READING, OR MAKING REPORTS?

WHAT SKILLS WERE BEING EMPHASIZED? WERE THE STUDENTS DOING RESEARCH? MAKING JUDGMENTS? DISCUSSING THE IMPLICATIONS OF EVENTS? LEARNING NAMES AND DATES?

WITH WHAT MATERIALS WERE STUDENTS WORKING? NOTEBOOKS, BASIC TEXTS, FILMS? WORKSHEETS, REFERENCE BOOKS, GLOBES OR MAPS?

WHEN THE TEACHER WAS TALKING, WHAT WAS HIS PURPOSE? WAS HE LECTURING? GIVING DIRECTIONS? STIMULATING INDEPENDENT THINKING?

AT THE END OF THE OBSERVATION PHASE OF THE PROJECT, THE MORE THAN 1,500 STUDENTS IN THE 60 CLASSES TOOK A STANDARDIZED TEST: THE COOPERATIVE TEST IN AMERICAN HISTORY, FORM A. THE SCORES OF THIS TEST WERE ANALYZED, WITH STUDENTS CLASSIFIED ACCORDING TO IQ. ANALYSIS OF VARIANCE, CO-VARIANCE AND CHI-SQUARE TESTS WERE USED TO STUDY INTERRELATIONSHIPS AMONG THE DIFFERENT TYPES OF DATA COLLECTED.

Here are the major findings of this study:

Regardless of the class size, there is a similar general pattern of instruction in all classes in the study.

When the teacher is talking, he is usually stimulating and supporting student thinking, rather than lecturing. When he is involved with students, he spends about half his time making assignments and giving directions. He interacts with small groups only a small percentage of the time. Teachers lecture less and use more discussion to reinforce student ideas than was indicated by an earlier time-sampled observation study conducted several years before. There also has been a striking increase in the use of audio-visual materials.

For more than 40 per cent of the time, the major activity between teacher and students is talk and discussion. All students are engaged in the same activity about 95 per cent of the time. Students function on their own, without direct contact with the teacher about one-third of the time, usually using their textbooks and notebooks.

Students spend most of their time in the classroom taking part in discussions, watching or listening to audio-visual presentations, listening to the teacher and reading and writing. Students do not use any instructional materials about one-third of the time. About one-fifth of the time they use the basic textbook and their notebooks, and one-fifth of the time they use teacher-made tests and worksheets. They hardly ever use maps or globes. Gathering and organizing facts are the major skills emphasized, with most emphasis on the concept of chronology.

What about differences in teaching the three groups?

In classes with less than 20 students (Group 1 classes):

Students work alone with their basic textbook less than do those in the other classes (16 per cent compared with 26 per cent in Group 2 classes; which had 25 students each, and 29 per cent in Group 3 classes, which had 32 to 34 students each).

They go to the library during class hours more than twice as often as students in larger classes and use a greater variety of books, reference materials and other resources. However, they spend practically no time developing skills in and understanding of the research process.

There is more emphasis on answering questions and developing vocabulary, with less effort on critical thinking. More discussion accompanies the use of audio-visual materials than in larger classes. About 30 per cent of the time, the topic under discussion is not related to hsitory. In addition, students spend more time on current events than do students in the larger classes (13.1 per cent vs. 17.4 per cent in Group 1 and 29.4 per cent in Group 3).

In classes of 25 students (Group 2 classes):

These students make more use of audio-visual aids and prepare almost twice as many individual reports as the students in the other classes. Teachers spend less time out of the room or on paper work or routine matters (13.2 per cent vs. 17.4 per cent in Group 1 and 29.4 per cent in Group 3).

In class discussions, teachers tend more toward stimulating student thinking and developing students' critical thinking skills than in the other classes. Thirty per cent of the time is given to developing students' concepts of the elements of history -- twice as much as in Group I and six times as much as in Group 3. Students devote more time to history topics relevant to the curriculum (67.2 per cent vs. 57.0 per cent in Group I and 51.4 per cent in Group 3).

In the classes of more than 33 students (Group 3 classes):

More than one-third of the class time is devoted to student reading and notetaking, using the basic textbook and student notebooks. Thirty per cent of the time students listen to the teacher, taking notes half of that time.

For about 38 per cent of the time, teachers are involved in activities other than working with students. The major focus of instruction (about 75 per cent) is on students collecting facts and developing relationships between dates. Students spend less time acquiring a concept of history than do those in other classes (5.8 per cent compared with 15.2 per cent in Group I and 30.3 per cent in Group 2). About 40 per cent of the time the subject matter is not relevant to history or to current events.

What did the test scores show?

Students in classes of 25 average significantly higher scores on the achievement test than those in the other classes. On the average, boys' scores are significantly higher than girls' in the same size classes. Scores on the test parallel IQ's for all students in the study. Within each group, the higher the IQ, the higher the test score; scores of students at the highest IQ level are double those of lower IQ students.

To summarize: The entire study suggests that if students are to benefit from being in very small classes, educators must develop instructional strategies -- teaching methods and procedures -- that will capitalize on the potential value of such classes. Meanwhile, students do benefit from being in "smaller" classes -- that is, in classes of 25 rather than of 30 or more students -- and the effectiveness of teachers in working with classes of 25 is strongly documented by this study.

An index of frequency of classroom actions

The foregoing illustration demonstrates that the occurrences of each different teacher behavior, student behavior, inter-action pattern, or use of materials of a given type is quantified to a percentage figure. Each percentage figure is an index of the frequency with which a given action occurs.

It is the sensitivity of the time-sampled observation procedure to differences in the relative frequency of occurrence of the actions and situations listed on the observation schedule that gives the procedure its usefulness in educational research.

As another example, we may take a three-year study designed to ascertain whether the intent to create a very highly structured, tightly disciplined

Experiment with highly structured school setting

school setting affected the modal instructional behaviors of teachers, the activities of students, the use of materials, instruction, and student and parental attitudes toward the school, and student outcomes.

Here 2,100 observations were completed in twelve schools, six of which were committed to trying out the highly structured approach, whose proponents perceived it as a road to improvement in student achievement, and six of which were representative of the modal approach among the schools in the system to the child and to the educational process.

Six categories of teacher activities examined

Simply as an illustration of findings from data secured through the time-sampled observation in a study like this, the data for six categories of teacher activities are listed here:

Table 1: Frequency of Occurrence of Six Categories of Teacher Activities in Two Types of Schools

Activities	Frequency of occurrence of each modal activity listed (expressed as a per cent of the total number of observations made in the group of schools named)	
	The Highly Structured Schools N:1265	The Representative Typical Schools N:807
1. Discussion	23.24	21.57
2. Doing routine duties	16.60	17.42
3. Talking	11.62	9.92
4. Reading	11.30	11.42
5. Helping pupils	10.90	12.69
6. Others	26.34	26.98

Highly-structured approach did not change instructional dynamics

There are no significant differences between the figures in the two columns; so, the study demonstrates that the highly structured approach to instruction did not materially change the dynamics of these instructional acts. Data from criterion tests demonstrated, as a corrolary, that student achievement was not improved (or diminished) by the process of highly structuring the instructional setting. This is just a small sample of a great mass of data accummulated in this study which cannot be elaborated

Usefulness of the time-sampled observation schedule

in this writing. Suffice it to say that the time-sampled observation procedure proved useful for demonstrating that improvement in education has to be sought elsewhere than in the process of "tightening up" the controls on the setting for learning.

Study of secondary school counselors

The following example illustrates an extension of the time-sampled observation procedure to a specialized area of the educational scene, not involving classroom instruction. The question for this study was: What do secondary school counselors actually do? This question has been raised in many quarters, in many instances by counselors themselves. In fact, this study was initiated at the request of the counseling staff.

Recycling the original survey approach

The time-sampled observation technique was used; but, prior to launching the field research team, it was necessary to recycle the research development activities of the original time-sampled observational survey, discussed above. Members of the Department of Research and of the Office of Guidance Service had to "brainstorm" an outline of the essential features of the counseling-guidance act, develop a prototype time-sampled observation schedule designed specifically for this study, complete several cycles of try-out and revision to arrive at a final format, and work out the logistical problems of using randomly spaced "candid camera" shots of counselors in action to secure a composite picture that would be an accurate description of what counselors do.

The observation schedule was developed to secure an equal number of situation reports, randomly spaced over time, on each member of the total counseling staff of the secondary schools in Montgomery County, that is, 123 counselors in 39 secondary schools.

The questions posed in the study were:

Does the counseling job have a common pattern in all secondary schools? On what kinds of student problems do counselors work? How much time do they spend with students, teachers, parents, and with resource people from the central office? How much student counseling is pre-planned? What kinds of activities take counselors' time; how much time? How much time do counselors spend with community resource people; with college and vocational representatives? In what setting do counselors work? Do women counselors perform the same types of work as men counselors; do women work essentially with girls and men with boys?

The survey team visited schools in a randomized schedule which insured visits at all times of the day and in varied sequences, and collected a total of 3,500 situation reports. They recorded what the counselor was doing; where he was working; with whom he was involved; and whether or not the conference was private; spontaneous or pre-planned; what they were working on; or on what problem they were dealing.

On occasion, the observers used a follow-up interview to fill in details -- for example, when the counselor was conferring privately with someone and the purpose of the conference could not be determined in any other way.

The descriptive data were entered in code on a reporting card and later key-punched onto cards from which computer analyses of the data were performed.

FINDINGS

A DEFINABLE GENERAL PATTERN FOR THE WORK OF ALL COUNSELORS WAS FOUND:

ACTIVITIES:*

Conferences - 37%
Desk Work or Writing - 13.8%
Meetings - 10.8%
Informal Talking - 9.9%
Telephoning - 8.1%
Reading - 5.1%
Observing in Classrooms - 1.1%

Purpose of Activities:

Student Problems - 46.4%
Schedules and Programs - 12.4%
Assessment of Student Characteristics - 10.7%
Records and Filing - 8.1%
Activities Associated with New Students - 6.7%

Interaction with Others:

With Students - 31.2%
With Fellow Counselors - 14.8%
With Classroom Teachers - 11.5%
With Local Administrators - 10%
With Clerical Staff - 5.4%
With College and Community Agency People - 2.4%

The time that counselors spend with parents varies. Junior high counselors see parents 2-1/2 times as often as do senior high counselors (20 per cent vs. approximately 8 per cent). The amount of contact that counselors have with other school system specialists (psychologists, pupil personnel workers, etc.) is greater in junior high (5.7 per cent) and junior-senior high schools (7.5 per cent) than in senior highs (2.9 per cent).

Most of the time (47.6 per cent), counselors are interacting with one person. They are alone 29.2 per cent of the time; with two people 6.1 per cent, and with three or more people 17.1 per cent.

Student Problems:

Personal-social Problems - 12.6%
Educational Planning - 12% (senior and junior-senior highs)
5.7% (junior highs)

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*Percentages cited in these findings may not total 100% because of miscellaneous items not reported. Except for lunch breaks (6% of the time), these factors involved less than 5 per cent of the counselors' time.

ACADEMIC PROBLEMS - 8.6%
BEHAVIORAL PROBLEMS - 7.6% (JUNIOR HIGHS)
3.5% (SENIOR AND JUNIOR-SENIOR HIGHS)
VOCATIONAL PLANNING - 9.1% IN JUNIOR-SENIOR HIGHS
4.9% IN SENIOR HIGHS
0.7% IN JUNIOR HIGHS
STUDENT EVALUATION - 10.7%
REPORT CARDS - 3.7%
FAMILY AND HEALTH PROBLEMS - 2%

WHERE COUNSELORS WORK:
THEIR OWN PRIVATE OFFICES - 56.1%
IN THE OUTER OFFICE, HALLWAYS, OR CAFETERIA - 17.7%
CONFERENCE ROOMS OR CLASSROOMS - 16.5%
OTHER SCHOOLS OR CENTRAL OFFICE - 3.5%

ACTIVITIES ARE SCHEDULED OR PRE-ARRANGED 64.3 PER CENT OF THE TIME, AND USUALLY (69 PER CENT) TAKE PLACE IN PRIVATE. EMERGENCIES ACCOUNT FOR ONLY 0.4 PER CENT OF THE COUNSELOR'S TIME.

NO NOTABLE DIFFERENCES WERE FOUND BETWEEN THE COUNSELING ROLE OF MALE AND OF FEMALE COUNSELORS, OR BETWEEN THE AMOUNT OF TIME DEVOTED TO BOY OR TO GIRL STUDENTS.

This study of the counseling function in a large school system is cited to suggest the feasibility of applying the time-sampled observation procedure to research in education outside the confines of the classroom.

CAREL's use of the time-sampled observation procedure

CAREL used the time-sampled observation procedure in two schools in Washington, D. C., to demonstrate to administrators the usefulness of the procedure for providing baseline information for planning educational strategies. In this use, CAREL was exercising its function as a disseminator of research developments.

In the CAREL demonstration project, one of the research sites was a public school; the other, non-public.

CAREL observation team trained at Department or Research Montgomery County Public Schools

For each of the two schools, data were secured on the frequency of occurrence of the actions, conditions, or materials described in each of the entries on the observation schedule reproduced in the appendix to this chapter. The CAREL application of the time-sampled procedure was small in scale, involving 334 observations in the participating public school and 321 observations in the participating non-public school. The CAREL observation team was prepared for its field work in the Department of Research of the Montgomery County Public Schools, in a training program using film clips of classroom situations as well as try-out observations in selected classrooms in the county schools.

Tables 2 through 5 illustrate the kinds of data secured in this small-scale application of the time-sampled observation procedure.

The data in Table 2 (see page 118) reflect relative emphases upon the different curriculum areas on the two demonstration schools.

Table 2: Data on Curriculum Emphases in two Demonstration Schools in CAREL PROJECT (Data shown as frequency of occurrence of classwork in curriculum area indicated and as percentages of total observations made in each school)

Curriculum Area	Public School		Non-Public School	
	f	%*	f	%*
Language Arts	201	32	156	27
Combination of Language Arts, other Curriculum Areas	23	4	33	6
Mathematics	84	13	84	14
Science	12	2	17	3
Social Studies	43	7	20	3
Religion	0	0	31	5
Health and Safety	2	(0.3)	1	(0.2)
Physical Education and/or Recreation	23	4	27	5
Art	36	6	39	7
Music	16	3	14	2
Foreign Language	4	(0.6)	0	0
Room and School Activities	10	2	28	5
Study Skills and Habits	10	2	10	2
Classroom Routine	62	10	81	14
Library Skills	11	2	2	(0.3)
Word Study	14	2	11	2
Combination of Curriculum Areas	16	3	15	3

*Percentage columns add to more than 100 per cent because more than one curriculum area was active at the same time in many observations.

The data indicate that, even in a small-scale use of the procedure, the data yielded are notably stable. In the two different settings, identical or almost identical emphases are reported for the following curriculum areas:

mathematics
science
health and safety
physical education and/or recreation
art
music
study skills and habits
library skills
word study
combination of curriculum areas

Identity of emphases in the two schools

Social studies may well be added to this list of identities in the two settings, since social studies plus religion in the non-public school (3 per cent plus 5 per cent, respectively) approximate language arts in the public school (7 per cent). Even language arts emphasis in the public school setting is not significantly different from that in the non-public, if one combines the entries "language arts" with "combination of language arts, other curriculum areas," (36 per cent for the public school vs. 33 per cent for non-public school).

Agreement between teachers and observers on topic under consideration

This ability of the time-sampled observation procedure to report emphasis upon curriculum areas with precision was noted in the original curriculum practices survey, in which the question of the validity of the procedure was examined. The ability of the procedure to reflect the generally prescribed time-allotments to the different areas, was convincingly demonstrated. In addition, during this validation phase, each teacher observed was given a form to fill out, in which the teacher entered what he thought was occurring at the time of the observer's entry. Even for such a judgment-related matter as topic under consideration and immediate purpose of the lesson (e.g., skills development, concept development, entertainment, etc.) agreement between teachers and observers exceeded 90 per cent.

Possible master mold for American education

The findings of the CAREL application were not intended for use in inferring from sample to population. However, one is tempted to note from the similarity in curriculum emphases in the two demonstration schools, each in a presumably very different setting, that the curriculum is rather constant, except for the subject of religion. Straying from the constraints of rigorous design, one is led to wonder whether the pattern of educational content is not cast from a master mold in education in the United States.

Table 3 reports teacher's activity at time of the observer's entry.

Table 3: Classroom Teacher's Activity at the Time of Entry
(Data shown as frequency of occurrence of teacher activity indicated and as percentages of total observations made in each school)

Activity	Public School		Non-Public School	
	f	%*	f	%*
Conferring with another adult	11	3	4	1
Participating with pupils in on-going activity	13	4	33	10
Demonstrating	1	(0.3)	1	(0.3)
Directing	5	2	2	1
Maintaining order	11	3	13	4
Routine	71	22	72	21
Listening to and/or observing	12	4	11	3
Observing activity or pupil(s)	9	3	14	4
Operating audio and/or visual equipment	0	0	0	0
Reading orally	4	1	3	1
Reading silently	20	6	11	3
Talking and observing	8	3	9	3
Talking and writing	6	2	2	1
Talking and illustrating	6	2	21	6
Talking and listening	60	19	64	19
Talking	46	14	38	11
Writing (other than routine)	3	1	2	1
Writing and listening/talking	8	3	13	4
Not in room	24	8	4	1
Helping pupil, small group	3	1	6	2
Moving about room, stopping to help children	0	0	17	5

*Percentage columns add to more than 100 per cent because more than one curriculum area was active at the same time in many observations.

A mirror for faculties and school systems

The specific findings in these two schools are not to the essence of the theme of this writing; rather, the data on Table 3 are offered as illustrations of the kind of detail in classroom emphases that can be generated by the time-sampled observation procedure. Once in hand, such data can be held up as a mirror, so to speak, for a self-look by a faculty of a school or, if a study is done in many schools, by a school system, to help answer the questions: What skills are we really teaching? Are we emphasizing a given skill (say, logical thinking) adequately? If not, what do we do about it?

Skills development

Table 4 reflects the relative emphasis upon the development of different types of skills in the two schools of the CAREL Project, as revealed by the time-sampled observation procedure. (See page 122 for Table 4)

Further similarities in emphases of the two schools

Greatest emphasis in both schools was upon comprehension skills, following directions, and finding or getting information. Far and away the greatest emphasis was upon language arts skills, generally. Again as with the data on curriculum emphases reviewed above, the similarities in emphases in the two schools upon the development of the different skills is manifest.

Table 4: Data on Skills Being Developed in Two Demonstration Schools in CAREL PROJECT (Data shown as percentages of total observations made)

Skills	Per cent of observations during which skill indicated was being emphasized	
	Public School	Non-Public School
Auditory and visual discrimination	4	3
Word analysis techniques	3	3
Vocabulary development, word meaning	6	4
Oral expression	2	4
Finding or getting information	7	7
Determining or identifying main ideas	3	4
Comprehension	20	19
Organizing information	4	3
Drawing inferences or predicting outcome	1	1
Solving problems	4	7
Expressing ideas	5	5
Aesthetic appreciation or creative expression	3	3
Planning	(0.2)	1
Critical thinking	1	1
Evaluating	(0.6)	1
Following directions	7	9
Exploring (things, ideas, information)	1	2
Experimenting	(0.3)	1
Summarizing	0	(0.3)
Raising questions or hypotheses	0	(0.1)
Explaining	(0.1)	(0.3)
Logical thinking	1	(0.4)
Dealing with relationships	1	(0.2)
Research techniques, library, card, etc.	(0.2)	0
Using index, locating information	(0.4)	0
Interpreting symbols	1	(0.3)
No skills development in evidence	23	18

Lest the impression be given that no differences are revealed in studies like these, Table 5 is presented on the materials in use in the two schools which participated in the CAREL Project. (See page 125 for Table 5)

Here there are obvious differences between the two educational settings. For example, the use of workbooks in the non-public school was ten-fold higher (14.0 per cent) than their use in the public school (1.3 per cent). Work charts to be completed by pupils were more in evidence (7.3 per cent) in the public school than in the non-public school (3.5 per cent). There was much more written work in the public school (19.4 per cent) than in the non-public school (8.3 per cent). The non-public school used reading sets, childrens weekly readers and magazines more (8.0 per cent) than did the public school (2.8 per cent). A single textbook was in use 18.0 per cent of the time in the public school as compared with 12.2 per cent in the non-public school. Thus, the configurations of materials used were very different in the two settings.

Advantages of a large N

The foregoing data from the CAREL application of the time-sampled observation procedure are only small-scale examples of the kinds of data yielded by the procedure. In the uses of the procedure made by the author, as earlier stated, individual studies are based upon many times the sample of observations used by CAREL. The advantages of large N's for observations are, of course, increased reliability and increased specificity of findings. Whereas, for example, a small-scale application may limit findings to reports under major headings of the observation schedule, a large N for observations yield data that can be reported under sub-headings of a given major heading.

Detail of verbal interaction, reinforcement, and teacher-pupil activities.

Then,in addition to reporting, say, audio-visual materials in use, one can also report what kinds of audio-visual materials; or, as another example, instead of reporting only that language arts skills were being taught, one can report in great detail what kinds of language arts skills are being taught. Similarly, in larger-scale applications of the time-sampled observation procedure, one can generate detail on the nature of the verbal interaction between teacher and class, the nature of the reinforcement used in the classroom, details of the activities of teachers in the teaching process and of the pupils in the learning process.

Table 5: Materials in Use at the Time of Entry (Data shown as percentages of total observations made in each school)

Type of Material	Per cent of observations in which material indicated was in use	
	Public School	Non-Public School
Textbooks (same title)	18.0	12.2
Variety of textbooks	0.6	0.5
Library books	5.2	3.4
Dictionaries	0.7	0.2
Reference	1.2	1.8
Paperback books, reading sets, weekly readers, pupils magazines	2.8	8.0
Group experience chart	0	0
Individual experience chart	0	0
Reading chart made by teacher	0.9	0.4
Work chart to be completed by pupil	7.3	3.5
Direction/standards/plans	0.3	0.5
Phonics chart (not phono-visual)	0	0
Word list	0.6	0.2
Quantity chart, graph, table	1.3	0.4
Variety of charts	0.1	0
Teacher-made worksheets (same for group)	4.4	5.8
Variety of teacher-made worksheets	0.3	2.3
Variety of commercially-made worksheets	0	0
Workbooks	1.3	14.0
Test (teacher-made)	0.7	1.2
Test (commercially-made)	0.1	0.5
Written work (by pupils)	19.4	8.3
Model, diorama	0.1	0
Picture (by pupils)	0.1	0.2
Map, graph, diagram (by pupils)	0	0
Booklet (by pupils)	0	0.2

TRAINING OF OBSERVERS

The foregoing recitation of data secured by the time-sampled observation procedure must be immediately followed with a caveat: the observation schedule can be used effectively only by a carefully trained team of observers. For the original time-sampled observation survey of prevailing curriculum practices the content and the schedule of the training program was as follows:

Five aspects of the training program

1. Introductory presentations of the purposes, assumptions, and operational plan of the research
2. Discussion of key features of the research design, to develop a common understanding of the need for uniform "ground rules" for conducting the survey
3. A detailed presentation and discussion of the version of the observation schedule available when the training program began
4. The try-out application of the observation schedule to classroom scenes depicted in sound movies and to classroom situations role-played by team members
5. The "dry-running" of the survey procedure and of the observation schedules in both elementary and secondary schools.

The first three aspects of this training program were intended to define for team members their role in the survey. The last two aspects were used for three purposes: (1) to revise the observation schedule as try-out experience dictated, in order to make certain that the codes for reporting classroom events were sufficiently comprehensive and detailed, (2) to make certain that there was consensus on the meaning of all entries in the codes and that there was a high degree of among-observer agreement in reporting of the same classroom events, and (3) to establish a uniform procedure to be followed by observers in preparing for each day's visit, entering a room, observing, leaving the room, filling out report forms, filing completed forms, and handling unexpected interruptions to the schedule of observations.

Training sessions were held three or four times a week over a period of one month. The typical training session lasted for three hours. Try-out observations in the schools were full-day sessions.

High degree of observer agreement attained

In the "dry-runs" in schools, observers moved from classroom to classroom in teams-of-four. After each observation, discrepancies in percept and in reporting were discussed and issues of definition were resolved. Membership on the teams-of-four was rotated so that each observer actively trained with all the other observers.

No terminal date was set, in advance, for the training program. Training was continued until a high degree of observer-to-observer agreement was achieved. The training was terminated when the teams-of-four achieved average agreement in using the various codes for reporting, as follows:

100%	for school number, date, clock time of entry, teacher-teacher interaction when more than one teacher was in room, official course title, and grade
98.8%	for length of observation reported in minutes and for pupil configuration in classes with more than one teacher
98.3%	for location of class at time of entry
97.7%	for class configuration in classes with one teacher
97.1%	for indicating whether single or multiple activities were involved and for designating curriculum area in the elementary grades
91.1%	for teacher activity at time of entry
88.4%	for pupil activity at time of entry
84.3%	for judging teacher's use of topic at time of entry

Observation team specialists

Use of film clips

The procedure for training new teams of observers in recent years in general still follows the plan of training used in the original study, but the time-span required for the training has been reduced. The author's research staff now includes research specialists whose chief responsibility is to conduct the time-sampled observation surveys undertaken by the Department of Research. These specialists train new observation team members, recruited as needed, by providing didactic instruction on the nature of the procedure, introducing neophytes to the observation instrument, demonstrating from completed studies how the data secured looks when analyzed and reported, providing opportunity to use the schedule and the reporting form with classroom scenes shown in film clips, and then giving on-the-job training in classroom visits, under the guidance of the Department's experienced team of observers.

Observers should be teachers

The importance of effective training of the observation teams must not be minimized. It must be continued with every new team until a high degree of among-observer reliability is secured. Because the observer is making decisions about classroom events, observers should be teachers. The Department usually recruits its ad hoc observation teams from the list of substitute teachers. The personality of the observer is an important factor to consider. Teachers selected for observation teams need to be able to move in and out of classrooms without disrupting on-going activities or displaying, by word or action, a tendency to evaluate what they observed. The time-sampled observation procedure does not evaluate by applying ratings. It reports activities and observable features of the learning situation.

THE RANDOMIZATION OF OBSERVATIONS OVER TIME AND SPACE

It is critical in the time-sampled observation procedure for the sequence of observations to be randomized, both as regards all schools and classrooms participating in a given study and as regards points of time within the entire period of the survey.

Random order of visits to schools

For large-scale studies which include many schools and extend over several months or even a full school year, the sequence for visiting schools is established by assigning a number to each school and using a table of random numbers to ascertain the order of visits to each school.

Similarly, within each school, the order of visits to classrooms is randomized. If, for example, the study includes all grades, from kindergarten through Grade 6, the classrooms in the school are numbered, and the order of visitation is drawn from a table of random numbers. This procedure is followed to avoid building into the observations in any given school a grade-time basis, which would exist if observations routinely started, say, in the lowest grade and then proceeded up the grades as the day progressed. Within a school, the observations in any given day are spaced equally apart, by dividing the time available by the number of observations scheduled. The beginning time of the first observation, determines the beginning time of the subsequent observations.

Time scheduling of observations

Balance of visits and variants

As a large-scale study progresses, the relative frequency of observations made in a given school or grade is monitored, to make certain that there is a balance of visits over the days of the week. In studies, in which variants are being compared, a balance of observations is sought among the various research sites representing each variant.

Meaning and value of "time-sampled"

The time-sampled observation procedure is "time-sampled" because of the scheduling devices here described. It is this characteristic which enables the procedure to yield data from hundreds or even thousands of observations which, when assembled, provide a true reflection of the educational process in action in the sites observed.

THE REPORTING AND ANALYSIS OF DATA GENERATED BY THE TIME-SAMPLED OBSERVATION PROCEDURE

Many facts from a single visit to a classroom

The observation schedule for the time-sampled observation procedure makes provision for reporting a large number of facts about any one class from a single visit.

Details of the reporting form

The reporting of these multiple items of information requires a reporting form in which there are spaces designated for entering specific types of information. The form used provides spaces for reporting, in decimal code, such background information as: school, grade, teacher, variant, year, project designation, day or week, date, observer number, clock time of observation, number of teachers in room, type(s) of teachers in room, organization of pupils for activities, mode of teacher's (or teachers') interaction with the pupils in the room. Then, a section of the reporting form provides designated spaces (or "fields") for reporting, in code, the teacher's activity, the curriculum area, the number of pupils interacting with the teacher, their location, and, for the pupils interacting with the teacher the following things: the purpose of the instruction, any skills being taught, the pupil activity at the time, the teacher activity, the instructional materials in use, and the nature of the verbal interaction between teacher and pupil.

Then, the reporting form provides spaces for reporting the same types of information for any group of pupils interacting with a second teacher in the room, if there were two teachers present and teaching.

Activities not involving interaction with the teacher also reported

Next, spaces are provided for reporting, for each group of pupils in the room who are engaged in activities not involving interaction with the teacher, both the size of each group and information on its activities, materials in use, currciulum area, and type of pupil verbalization.

Large number of facts stored on reporting form require computer processing.

The report form itself is a one-page lay-out, capable of "storing" a great quantity of specific facts. The amount of detail secured for each observation, multiplied by the number of observations made, results in a great mass of data that can be manipulated and analyzed only by using computer programs.

The data can be key-punched directly from the codes on the reporting form onto data processing cards. The data, after being key-punched and banked electronically, are capable of being tabulated or cross-tabulated in any pattern desired. One can, for example, ascertain, first, the percentage of occurrences in which any given teacher activity or pupil activity is observed; but one can also cross-tabulate to ascertain what pupil activities accompany any and all specific teacher activities reported. Similarly, one can ascertain the modal types of teacher verbal interaction with pupils and, if desired, cross-tabulate types of teacher verbal behavior with pupil activity in progress.

Flexible cross-tabulation possible

Data-processing programs required for computations

To capitalize the findings of the time-sampled observation procedure, it is necessary to have available data-processing programs that can produce these cross tabulations and that can in addition compute percentage figures like those illustrated above.

Usefulness of the time-sampled observation procedure

The data yielded by the time-sampling observational procedure are useful for describing curriculum practice at a given point in time in a given subject, grade, or total school setting; for ascertaining whether two avowedly different learning settings are, in fact, different in action; and for establishing a baseline for developing educational strategies. The procedure eliminates the need to make decisions on the basis of unverified perceptions of status or on the undocumented premise that given learning settings are really different.

APPENDIX: THE CODED ENTRIES IN THE OBSERVATION SCHEDULE

CURRICULUM AREA

- 010 Language Arts
  - 011 Reading
  - 012 Phonics or phonetic word analysis
  - 013 Spelling
  - 014 Handwriting
  - 015 Composition
  - 016 Mechanics or language arts (punctuation, capitalization, outlining, correct form and usage)
  - 017 Speaking
  - 018 Listening (as a skill)
  - 019 Literature
- 020 Mathematics
- 030 Science
- 040 Social Studies
  - 041 History
  - 042 Geography
  - 043 Interpersonal relationships
  - 044 Civics
  - 045 Other
- 050 Health and Safety
- 060 Physical Education and/or Recreation
- 070 Art
- 080 Music
- 090 Foreign Language
- 100 Room and School Activities
- 110 Standards, Study Skills, and Habits
- 120 Classroom Routine
- 130 Curriculum Area Cannot Be Determined
  - 130 Teacher not interacting or instructing
  - 131 Curriculum area in which teacher is interacting is not known
  - 132 Teacher interacting by maintaining order only
- 140 Library Skills
- 150 Combination of Curriculum Areas
  - 151 Language arts -- social studies/science
  - 152 Social studies -- science
  - 153 Art -- social studies/science
  - 154 Music -- social studies/science
  - 155 Language arts -- art
  - 156 Art -- music
  - 157 Study skills -- social studies/science
  - 158 Study skills -- language arts
  - 159 Other combinations
- 160 Combination of Language Arts Curriculum Areas
  - 161 Reading and word study/phonics
  - 162 Spelling and phonics
  - 163 Spelling and composition
  - 164 Handwriting and composition
  - 165 Reading and oral expression
  - 166 Reading and spelling
  - 167 Mechanics of language and composition
  - 168 Spelling and handwriting
  - 169 Other combinations
- 170 Word Study (other than phonics or spelling)
  - 171 Vocabulary (meanings--synonyms)
  - 172 Word analysis and/or syllabication
  - 173 Word study and reading
  - 174 Alphabetizing
- 180 Religion (Note: Non-public schools were included in the CAREL Study)

SPACE IN USE

010 One classroom

- 011 Children at their seats, desks arranged in rows
- 012 Children at their seats, desks arranged in groups
- 013 Children grouped around teacher

Children at other areas in room

- 014 Book table/corner
- 015 Science center
- 016 Listening or viewing center
- 017 Art center
- 018 Several of these
- 019 Other, children just sitting

020 Two classrooms
030 The science room
040 The science room and one classroom
050 The science room and two classrooms
060 The all-purpose room, the auditorium
070 The music room, art room
080 The outdoor area
090 The library
100 The kindergarten
110 Audio-visual room
120 Hallway
130 Unassigned classroom
140 Between classes
150 Field trip
160 Cafeteria
170 Coordinator's office
180 Chapel (Note: Non-public schools were included in the CAREL Study)

TEACHER TITLE

0 No teacher
1 Student teacher
2 Classroom teacher

TEACHER INTERACTION

One or No Teacher Is with Class

010 Teacher interacting with class as a whole.
020 Teacher interacting with one pupil; other pupils functioning as individuals.
030 Teacher interacting with one pupil; other pupils functioning (1) as groups, (2) as a whole class.
040 Teacher interacting with one pupil; some pupils functioning as individuals, others as groups.
050 Teacher interacting with a group; other pupils functioning as individuals.
060 Teacher interacting with a group; pupils functioning as groups.
070 Teacher interacting with a group; some of other pupils functioning as individuals, others in group.
080 Teacher not interacting with pupils; pupils functioning as individuals.
090 Teacher not interacting with pupils; pupils functioning (1) as groups, (2) as whole class.
100 Teacher not interacting with pupils; some of other pupils functioning as individuals, others in groups.
110 Teacher absent; pupils functioning as individuals.
120 Teacher absent; pupils functioning (1) as groups, (2) as whole class.
130 Teacher absent; some of other pupils working as individuals, others as groups.

Two or More Teachers with the Class

140 One teacher conducting the activity: (1) other(s) helping, (2) other(s) observing, (3) other(s) not interacting.
150 Two (or more) teachers sharing conduct of activity.
160 More than one teacher in area, each with different class, movie.
170 More than one teacher; none interacting with pupils.
180 More than one teacher in the area, each with a different group.
190 More than one teacher, each interacting with individuals; other pupils functioning as individuals.
200 More than one teacher in area, each with a different group; other pupils functioning as individuals and groups.
210 One teacher conducting as activity with a group, the other interacting with an individual.
220 Teacher(s) interacting with a group, other(s) interacting with individual(s), other pupils functioning in groups and/or individuals.

Pupil Organization

1. All individuals or groups operating on same activity in same way.
2. Individuals or groups operating on same activity, different levels.
3. Individuals or groups operating on same activity, functioning in different ways.
4. Class organized to work on same activity, those who have finished are engaging in another activity (or reverse).
5. Individuals or groups operating on different activities.
6. Individuals or groups operating on different activities in same curriculum area.
7. Individuals or groups operating on different activities in more than one curriculum area.
8. Individuals or groups operating on different pupil-selected activities in same curriculum area (free-play).
9. Individuals or groups operating on different pupil-selected activities in more than one curriculum area (study time).

TEACHER ACTIVITY AT TIME OF ENTRY

010 Conferring with principal, another teacher, or adult
020 Participating with pupils in on-going activity
030 Demonstrating (a musical or mechanical device, an act or process as in art, physical education, foreign language, handwriting, or an outcome of a scientific or social situation)
040 Directing (teacher directing music, choral speaking, physical education)
050 Maintaining order (standing, walking, or sitting with no other observable activity)
060 Routine (preparing for another activity, taking attendance, collecting money, eating lunch, distributing or collecting materials, housekeeping, assigning tasks first aid, directing class movement within a room, or movement to another area)
070 Listening to and/or observing (panel discussion, panel presentation, recitation, etc.)
080 Observing activity or pupil(s) (pantomine, dance, etc.)
090 Operating audio and/or visual equipment
100 Reading (oral)
    111 Reading silently
    112 Reading silently, listening and observing (as with reading group)
    113 Reading silently, listening, observing and answering
120 Talking and observing
130 Talking and writing (explaining and writing)
140 Talking and illustrating (with pictures, maps, diagrams, charts, tables, words, or word components)
150 Talking and listening (conferring, discussing, questioning and answering)
160 Talking
    161 Praising or encouraging
    162 Announcing
    163 Correcting student(s) behavior or reprimanding
    164 Dictating, other than testing
    165 Explaining/giving directions
    166 Lecturing (prepared presentation)
    167 Reciting
    168 Testing
    169 Other
170 Writing (other than routine)
180 Writing and listening/talking (recording discussion, experience chart, helping a child with written work or checking and evaluating)
190 Not in room
200 Helping pupil, small group
210 Moving about room, stopping to help children

PUPIL ACTIVITIES AT TIME OF ENTRY

01000 Silent Reading (Without Writing)

01010 Silent reading without discussion
01020 With discussion
01030 And organizing materials in a specific way
01040 Studying
01050 And selecting library books

02000 Oral Reading

02010 Others listening or "following along: as in reading group
02020 Only teacher listening
02030 With discussion
02040 Reading to class

03000 Reading and Writing

03010 Answering questions or working problems
03020 Following written directions

03030	Correcting work
03040	Checking another's work
03051	Copying (chart, etc.)
03052	Copying and completing or correction
03060	Being tested
03070	Studying and writing (taking notes)
03080	Matching or indicating order--making a list
03090	Word or sentence analysis
03091	Variety
04000	Reading and Illustrating
05000	Reading, Writing, and Illustrating
06000	Writing
06010	Recording Information (as from a movie, trip, demonstration or research activity)
06020	Story, poetry, letter, invitation, composition notice, original work problem
06030	Listing or writing in order
06040	Practicing (improving form)
06050	Constructing sentences/writing definitions
06060	Labeling
06070	Playing a writing game
06080	Writing a book report
06090	Variety
07000	Writing and Illustrating
08000	Listening
08010	To mechanical device--radio, tape, phonograph or musical device, etc.
08020	To teacher, visiting teacher, another adult
08030	To public address system, messenger
09000	Listening, Speaking, Reading and Writing (in response to directions or answers, pupils engage in one of the following)
09010	Correcting work
09020	Answering questions or problems/testing
10000	Listening/Observing and Writing
10010	Taking dictation
10020	Taking a test
10030	Practicing
10040	Taking notes
10050	Answering questions or problems/following directions
11000	Listening and Observing
11010	Audio-visual materials (including story with pictures)
11020	Teacher demonstration, illustration
11030	Someone correcting work
12000	Listening or Observing and Speaking (All Listening/Observing and Speaking; a Pupil or Some Pupils Participating Actively, Others Listening/Observing)
12010	Pupils answering and/or questioning
12020	Pupils dictating (as for an experience chart)
12030	Pupils explaining, demonstrating, illustrating, describing, reporting, "show and tell"
12040	Verbal games
12050	Choral speaking
12060	Dramatization
12070	Drilling (repeating)
12080	Conferring (one-to-one)
12090	Discussion (free flow, rather than answering questions)
12091	Planning
12092	Making-up original stories, situations, poems, lyrics
12093	Analyzing
12094	Evaluating
12095	Making proposals or suggestions
12096	Problem-solving
12097	Other (reviewing)
13000	Speaking (All Reciting or Choral Speaking)
14000	Observing or Viewing (Visual Materials, Someone Correcting Work, Visual Demonstration, Pantomime, Exhibits, Other Pupils Working or Playing)
15000	Observing and Examining Objects
16000	Observing and Speaking

17000 EXPERIMENTING AND OBSERVING

18000 ENGAGING IN LARGE MUSCLE ACTIVITY/RECREATION

18010 GAMES (WITHOUT MUSIC)
18020 COMPETITIVE SPORTS (RELAYS, BASEBALL)
18030 CALISTHENICS OR GYMNASTICS
18040 PLAYING WITH TOYS, GAMES, PUZZLES, OR PLAY EQUIPMENT

19000 LISTENING AND MOVING (MOVEMENT RELATING TO RHYTHM, TONAL PATTERNS, ETC.)

19010 FOLK OR SQUARE DANCING
19020 CALISTHENICS TO RHYTHM
19030 MUSICAL GAMES
19040 CREATIVE DANCING
19050 RHYTHMICAL MOVEMENT (OTHER THAN DANCING)
19060 CREATIVE ART--MUSIC

20000 MAKING OR CONSTRUCTING

20010 MAPS, GLOBE
20020 GRAPH TABLE, DIAGRAM, NUMBER LINE/SET, FRACTIONAL PARTS, ARCHITECTURAL DRAWING
20030 CHART, BOOKLET
20040 PICTURE, DESIGN, ILLUSTRATION, MURAL, PRINT
20050 HANDICRAFTS
20060 MODEL, USEFUL OBJECT, STRUCTURE, PUPPET, ETC.
20070 ORGANIZING, ARRANGING A DISPLAY
20080 GARDEN, AQUARIUM, TERRARIUM
20090 SHAPES, FORMS
20110 VARIETY OF THINGS

21000 MANIPULATING MATERIAL

21010 MEASURING
21020 ORGANIZING MATERIALS OR MATCHING ITEMS
21030 COMPUTING
21040 COUNTING
21050 OTHER

22000 SINGING, PLAYING MUSICAL INSTRUMENTS, MOVING TO RHYTHM (INCLUDING PUPILS PARTICIPATING ACTIVELY WHILE OTHERS LISTEN, OR LISTENING FOLLOWED BY ACTIVE PARTICIPATION)

23000 BEING IN-ATTENTIVE TO ORGANIZED ACTIVITY (SOCIALIZING)

23010 "ACTING-UP," CLOWNING, ANNOYING OTHERS
23020 DAYDREAMING
23030 ENGAGING IN DIFFERENT ACTIVITY

24000 ENGAGING IN ADDITIONAL ACTIVITY

25000 RESTING

25010 RESTING, AND LISTENING TO STORY/MUSIC
25040 WAITING
25050 BEING DISCIPLINED

26000 HELPING

26010 HELPING TEACHER
26030 HELPING OTHER PUPIL(S)

27000 DOING ROUTINES

28000 MOVING TO ANOTHER AREA FOR INSTRUCTION

29000 NONE OF THE ABOVE

30000 ADDITIONAL VARIETY OF ACTIVITY

SKILLS (SPECIFIC SKILLS BEING DEVELOPED)

01 AUDITORY AND VISUAL DISCRIMINATION

02 WORD ANALYSIS TECHNIQUES

03 VOCABULARY DEVELOPMENT, WORD MEANING, ETC.

04 ORAL EXPRESSION

05 FINDING OR GETTING INFORMATION--FIELD TRIP

06 DETERMINING OR IDENTIFYING MAIN IDEAS

07 COMPREHENSION (OF TEST OR CONCEPT)

08 ORGANIZING INFORMATION

09 DRAWING INFERENCES OR PREDICTING OUTCOMES

10 SOLVING PROBLEMS

11 EXPRESSING IDEAS

12 AESTHETIC APPRECIATION OF CREATIVE EXPRESSION

13 Enjoyment

14 Planning

15 Critical Thinking

16 Evaluating

17 None or Undetermined

18 Following Directions

19 Exploring (Things, Ideas, Information)

20 Experimenting

21 Summarizing

22 Raising questions or Hypotheses

23 Explaining

24 Logical Thinking

25 Dealing with Relationships

26 Research Techniques: Library, Card, Catalog, etc.

27 Using Index, Glossary, Chapter Reading, etc.--locating information

28 Interpreting Symbols

29 Measuring

30 Comparing

INSTRUCTIONAL MATERIALS IN USE

Books

010 Textbooks (same title and by whole group)

- 011 Reading

020 Variety of Textbooks

- 021 Different curriculum areas
- 022 Reading--variety of titles
- 023 Some texts--some trade books

030 Trade Books

- 031 Variety of titles
- 032 Same titles (used by variety of pupils)
- 033 Tradebook and notebook
- 034 Trade book - one title

040 Dictionaries

- 041 Only dictionaries
- 042 Texts and dictionaries
- 043 Trade books and dictionaries

050 Reference

- 051 Encyclopedia
- 052 Atlas
- 053 Newspaper or clippings
- 054 Magazines
- 055 Pamphlets
- 056 Other
- 057 Variety
- 058 Card catalogue/library card index
- 059 Almanac

060 Other

- 061 Paperback books
- 063 Sets (as SRA)
- 065 Test booklet
- 066 Weekly reader/any others
- 067 Children's magazines
- 068 Play scripts
- 069 Variety

CHARTS (Hand-made displayed on blackboard or chart paper on wall, rack, or bulletin board)

070 Group Experience Chart

080 Individual Experience Chart

090 Reading Chart Made by Teacher

100 Work Chart to Be Completed by Pupil

110 Direction and/or Standard Plans

120 Phonics Chart (not Phono-Visual)

130 Word List

- 131 Vocabulary
- 132 Word Study
- 133 Spelling

140 Quantity Chart, Graph, Table or Diagram

150 Variety of Charts

WORKSHEETS, ETC.

160 Teacher-Made Worksheets -- Same for Group

- 163 Guide Sheets

170 Variety of Teacher-Made Worksheets

180 Commercially-Made Worksheet -- Same for group

190 Variety of Commercially-Made Worksheets

200 Workbooks

- 201 Same assignment for group
- 202 Variety of assignment

210 Tests (Teacher-Made)

- 211 Objective
- 212 Essay

220 Tests (Commercially-made)

PUPILS' OWN WORK

230 Written Work (by Pupil(s))

- 231 Papers
- 232 Notebooks(s)
- 233 A Rough Draft
- 234 Letters, Envelopes

240 Model, Diorama, etc. (by Pupil(s))

250 Picture (by Pupil(s))

260 Map, Graph, Diagram (by Pupil(s))

270 Booklet (by Pupil(s))

SKILL DEVELOPMENT

280 Phono-Visual

- 281 Workbook - same page
- 282 Workbook - variety
- 283 Charts
- 284 Word cards
- 285 Letter games
- 286 Variety

290 Flash Cards

- 291 Arithmetic
- 292 words
- 293 Other
- 294 Variety

310 Games, Etc.

- 311 Matching games
- 312 Word games
- 313 Spelling games
- 314 Arithmetic games
- 315 Puzzles
- 316 Phonics
- 317 Variety
- 319 Alphabet

MAPS, GLOBES, CHARTS, (COMMERCIAL)

320 Map

330 Globe

340 Charts - Commercial

- 341 Speech chart

350 Mathematic Devices

360 Science

- 361 Thermometer
- 362 Scale or weights
- 363 Microscope
- 364 Weather instruments
- 365 Specimens
- 367 Variety
- 368 Animals
- 369 Plants

370 Art Materials

- 371 Crayons
- 372 Paint
- 373 Paper
- 374 Scissors and paste
- 375 Chalk
- 376 Clay
- 377 Tools
- 378 Other
- 379 Variety

380	Physical Education Equipment
390	Music
396	Variety
400	Audio Visual Equipment
401	Film strips
402	Films and projector
403	Recordings
404	Tapes
405	TV
406	Radio
407	Slides
408	Pictures - commercial
409	Variety
410	Other
411	Chalkboard
412	Flannel board
413	Typewriter
414	Programmed learning material
415	Blocks
416	Housekeeping
418	Variety (combination of 410)
419	Puppets, stage, costumes, props
420	Variety of Materials in Use (other than paper and pencil)
421	Tach - X
422	Controlled reading machine
423	Overhead projector
424	Opaque projector
500	Bulletin Board
520	Parts of a Book
521	Table of contents
522	Index
523	Glossary
524	Appendix
525	Chapter titles
526	Bibliography

TEACHER VERBALIZATION

000	No talking
010	Neutral
011	Conferring with another adult
012	Socializing
020	Dictation (other than testing)
030	Reading orally
031	Telling a story, reciting
040	Making assignment or an announcement
050	Calling on pupils to speak, report, read
060	Testing
070	Asking questions with predicted answers
080	Answering pupil's question or inquiry
090	Commenting on pupil's idea or contribution
100	Supporting or re-enforcing a pupil's statement
101	Praising, encouraging
102	Using pupil feelings, joking (positive)
110	Clarifying a pupil's statement
120	Giving directions, explaining
121	Summarizing, reviewing
122	Making suggestions
123	Planning
124	Stating facts, information
125	Directing as music, choral speaking

130 Questioning to stimulate thought and/or discussion

140 Asking questions requiring thoughtful answer--critical thinking of pupil

150 Conferring with pupil(s)

160 Lecturing (prepared presentation)

170 Evaluating, checking

180 Criticizing pupil(s)

190 Correcting student behavior, disciplining

200 Using derogatory (personal) remarks

201 Threatening

210 Using sarcasm, ridicule, talking-down, embarrassing remarks

220 Referring to self--feeling, opinion or experience

230 Verbalization (type undetermined)

Chapter 7

General Atmosphere for Administrative Autonomy: The Atmosphere for Decision Making

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This portion of the study deals with the set of instruments relating to analysis of the demographic background of principals, the characteristics of school populations and teaching staffs, school programs and the school environment, as reported by both public and non-public school principals. Following an overview of findings, tables and texts are presented detailing the statistical data obtained from respondents. A final section of the report proper investigates the degree of independence of action practiced by elementary school principals. A technical appendix, regarding statistical confidence limits, concludes the chapter.

INTRODUCTION

Decision-making in the field of education, as in other areas, rests upon the quality and quantity of information available to the administrator or to those to whom he has delegated authority. As our society becomes more complex, and problems, both urban and rural, impinge more and more upon the educational process, the need for prompt and useful information becomes crucial if false steps are to be avoided.

As in other aspects of this study, the student is the focus of interest, and the impact of administrative conditions and decisions upon him is the matter of concern rather than presentation of a static representation of organizational patterns. The kinds of data elicited by the instruments used range from demographic material on principals--through characteristics of the student population and the teaching staff--to school programs and school environment. In other words, many of the elements for an ecological study of the learning setting are provided, permitting insight into the interaction possibilities between the student and his environment, which the school administrator needs to take into account.

The report that follows represents only one dimension of the total program of research--that of the data-base required for effective administrative decision-making. A brief treatment of the major findings is presented first, while the bulk of the report provides more detailed treatment of the data gathered from those who participated in the study.

OVERVIEW OF FINDINGS

Demographic Data on Principals

Age: Public elementary school principals as a group are older than non-public school principals. Only 7 percent of public school principals are age forty or younger, while 71 percent of the non-public school principals fall in that category.

Marital Status: Most public school principals (71 percent) are married, whereas all principals in the sample of non-public schools hold cleric celibacy.

Community Identity: The majority of both public school and non-public school principals were raised in urban communities. Seventy-five percent of public school principals live in the same community as in childhood. None of the non-public school principals live in the same community as in childhood and 54 percent of them feel unidentified with the community they presently serve, although all of them live in the community where the school is located. Over half of the public school principals do not live in the same location as the school.

Educational Background: Public school principals have more formal education, in terms of degrees held, than non-public school principals. Most public school principals obtained their education at public teachers' colleges or normal schools, whereas most non-public school principals attended privately supported universities.

Experience: The majority (75 percent) of public school principals have had at least twenty-one years of teaching experience; only 28 percent of the non-public principals fall in the same category. Although principals of public schools are, on the average, ten years older than principals of non-public schools, only 33 percent of the public school principals have had eleven or more years of administrative experience.

Interestingly enough, these results confirm the fact that seniority is not one of the decisive factors involved in being appointed to a principalship in non-public school.

School Organization and Student Population

Calendar: There is little difference between the two types of schools as to the number of days in the school year or the number of hours per day each pupil spends in school.

Enrollment: The average total enrollment in a non-public elementary school is approximately 365 students as compared to 854 students per school for public schools. However, the enrollment pattern shows that class sizes are larger in non-public schools, averaging approximately 35 students per class. In public schools, the average is approximately 29 students per class, suggesting a higher teacher-pupil ration in non-public school. Non-public schools in the District of Columbia are more integrated racially than public schools (estimate of racial balance). Most schools of both types show about the same size enrollment as during the previous year, but more public schools show increases while more non-public schools show decreases.

Absences: Public schools indicate a larger number of absences than non-public schools over all grades. Kindergarten shows the highest rate of absences in both types of schools.

Groupings: There is no major difference in terms of homogeneous groupings by grade levels, but for all grades in general the percentage of non-public schools that report this practice, is more than twice that of public schools.

Juvenile Court Appearances: All non-public school principals report zero percent of juvenile court appearances throughout the grades, with the exception of third grade, whereas public school principals report a consistent increase by grade level in this matter.

Teaching Staff

Experience: The non-public school teaching staff, in general, has had longer teaching experience than public school staffs, unlike the case of principals. Average teaching experience among teachers in public schools is six to eight years, whereas non-public school teachers average twelve to fourteen years.

Male Teachers: Most non-public elementary schools have no male teachers, while public schools have some male teachers from third grade on up, increasing in number in the higher grades.

Turnover: There is considerably more turnover of the teaching personnel in public schools than in non-public schools, both during and after the school year. In all cases, non-public principals were able to replace teachers in a reasonable length of time, but 16 percent of the public school principals had some difficulty in doing so.

Certified Teachers: Of the current teaching staff in the District of Columbia elementary schools, 31 percent of public school teachers and 57 percent of non-public school teachers are not fully certified by the state.

Resource Teachers: In terms of services provided by special teachers in music, art, science, remedial arithmetic, remedial reading, and foreign language, non-public schools fall far behind the public schools; none of the non-public schools have a full-time teacher in any of these areas, and the majority of their principals report the absence of even a part-time teacher in most of these areas. All the public schools have some service (at least part-time) in the areas of music, art, and science, although 36 percent of them do not have any special teacher for remedial arithmetic.

School Programs

Acceleration Programs: Both types of schools report a generally negarive policy on acceleration through the grades. However, more non-public than public schools provide for an accelerated curriculum for better students.

Testing: The majority of the non-public schools give intelligence or aptitude tests to second and fourth graders, whereas most public schools give the tests to fourth and sixth graders. Standardized tests are given to all students in all grades in the non-public schools but only in grades two, four, and six in the public schools. Additional large scale testing is provided by most of the schools of both types.

Homework: More homework is given to primary grades in the non-public schools than in public schools; however, there are only minor differences after third grade.

Remedial Work: More remedial work is provided for non-public school pupils both in arithmetic and reading than for public school pupils during the school year. Slightly larger numbers of pupils take remedial work during the summer in public schools than in non-public.

Guidance Facilities: Over half of the non-public schools report no physical facilities for guidance available. Only 22 percent of the public and 14 percent of the non-public schools report adequate facilities available to meet such needs.

Library: Although the total holdings of public school libraries are larger, there is no significant difference between the two types of schools in relation to the size of enrollment. Both types of schools have about three to four books per pupil.

Special Programs for Students: There are varying degrees of emphasis between the two types of schools; more public schools have student government activities than non-public; more after-school intramural athletics are provided for boys in non-public schools than in public schools; more participation in various cultural activities are provided public schools than in non-public schools.

Religious Education: As expected, all non-public schools sampled provide at least one to two hours a week of religious education in all grades including kindergarten, whereas no public school has any regular curriculum of this kind.

Adult Education: Public school buildings are rarely used for adult education (only 7 percent report such use) whereas nearly half of the non-public schools are used for that purpose.

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School Environment

Building: The majority of facilities for both types of schools are forty or more years old with some of them never having received major renovations.

Neighborhood: Only 11 percent of the public schools and no non-public school serve areas with expensive private homes. The majority of the schools are serving low-income areas (low-cost homes, low-rental apartments, public housing, etc.).

Home Environment: Approximately one out of every twenty-five students in both types of schools (slightly larger number of students in non-public schools) come from the homes where a language other than English is spoken.

PRINCIPALS' TASK ANALYSIS AND SCHOOL ORGANIZATION

The instrument which was administered to both public and non-public school principals covered six major points:

1. Personal characteristics of the principal, such as age, education, experience and attitudes;
2. Characteristics of the student population, including size of enrollment, absenteeism and student grouping;
3. Characteristics of teaching personnel available to the schools--numbers employed, certification, specialization, etc.;
4. Policies of the school regarding homework, accelerated individual programs, summer school programs and testing;
5. Physical facilities of the schools and availability of cultural institutions to the students; and
6. Decentralization of the school, including items designed to measure the principal's view of his ability to function independently of a central school administration.

The following fifty-seven tables and accompanying text present data regarding the first five of these points. A final section discusses independence of action by elementary school principals.

Demographic Data on Principals

Table 1 shows that public elementary school principals are much older than parochial school principals. Only seven percent of public school principals are 40 years of age or less as compared to 71 percent

Age of principals

of parochial school principals. The weighted percents give an overall 20 percent for all principals in Washington, D. C. elementary schools who are 40 years of age or under. Please note that we can be 95 percent certain that this sample figure of 20 percent could represent a population parameter of as low as 8 percent or as high as 32 percent (See Appendix). Also note that the difference (71 - 7 = 64%) between the responses of public and parochial school principals is significant at the .05 level.

Further, 40 percent of the public school principals are 56 years of age or older, as compared to 14 percent of the parochial school principals. This gives for the overall group an estimate of 34 percent who are 56 years old or older.

Table 1: Age of Principals to Nearest Birthday

Age	Percentages		
	Public	Non-Public	Combined
26-30	-	14	3
31-35	-	14	3
36-40	7	43	14
41-45	11	14	11
46-55	43	-	34
56-65	36	14	31
66 or over	4	-	3
	n=28	n= 7	n=35

Table 2 shows that most public school principals are married (71%) while all non-public school principals are clerics (100%), and thus single.

Marital Status of Principal

Table 2: Current Marital Status

Status	Percentages		
	Public	Non-Public	Combined
Single	14	-	11
Married	71	-	57
Widowed	-	-	-
Divorced or Separated	14	-	11
Cleric	-	100	20
	n=28	n= 7	n=35

There is little difference in the type of community where principals of the two types of schools were raised. The figures for public, non-public, and combined school principals who were raised in urban communities are 68, 71, and 69 percent, respectively.

Table 3: Type of Community Where Principals Were Raised

Type of Community	Percentages Public	 Non-public	 Combined
Urban	68	71	69
Suburban	29	14	26
Rural	4	14	6
	n=28	n= 7	n-35

Identity with the community

Interestingly, Table 4 shows that 75 percent of the public school principals are "living in the same community as in childhood," but none of the non-public school principals are. Additionally, 21 percent of the public and 43 percent of the non-public school principals who "came as an adult, feel that they belong," while 54 percent of the non-public school principals do not feel identified with their community.

However, only 36 percent of the public schools are in the community where the principal lives, as compared to 100 percent of the non-public schools. See Table 5.

Table 4: Sense of Identity with Community by Principals

	Percentages Public	 Non-public	 Combined
Living in same community as in childhood	75	-	60
Came as an adult; feels that he belongs	21	43	26
In community long time; does not feel identified	4	29	9
Too short a time to feel identified	-	29	6
	n=28	n= 7	n=35

Table 5: Location of School Building in Relation to Principal's Community

Location of School		Percentages Public	 Non-public	 Combined
In community where he lives		36	100	49
Not in community where he lives		64	-	31
		n=28	n= 7	n=35

Principal's Educational background

Table 6 shows that the public school principals have a great deal more formal education, in terms of degrees held, than do the non-public school principals. While 75 percent of the public group hold a Master's degree plus 30 hours or more, only 14 percent of the non-public group do. An additional 21 percent of the public school principals have a Master's degree (96% Master's or above) while only 29 percent of the non-public school principals have the Master's degree (43% Master's or above).

Table 6: Highest Degree Obtained by Principals

Degree obtained	Percentages		
	Public	Non-public	Combined
No degree	4	-	3
Degree less than 4 yrs work	-	-	-
Bachelor's degree	-	57	11
Master's degree	21	29	23
Master's degree plus 30 hrs.	71	14	60
Doctor's degree	4	-	3
	n=28	n= 7	n=35

Type of institution at which larger part of education taken

As presented in Table 7, 86 percent of the public school principals went to a public teachers' college or normal school while 100 per cent of the non-public school principals went to "non-public universities or colleges."

Table 7: Type of Institution at Which Larger Part of Education taken by Principals

Type of Institution	Percentages		
	Public	Non-Public	Combined
Public(tax supported) univ. or land grant col.	7	-	6
Public teachers college or normal school	86	-	69
Other public college	-	-	-
Non-public(privately supported) university	4	71	17
Other non-public college	-	29	6
Does not apply	4	-	3
	n=28	n= 7	n=35

Principals' Teaching experience

Since the group of public school teachers is older, the results of Table 8 were expected. This table shows a difference of 75 percent to 28 percent of those with 21 years or more full-time teaching experience, in favor of public school principals.

Table 8: Total Number of Years of Full-time Teaching Experience

Years of Teaching Experience	Percentages		
	Public	Non-public	Combined
6-10	7	14	9
11-15	11	29	14
16-20	7	29	11
21-25	32	14	29
26-30	14	-	11
Over 30	29	14	26
	n=28	n= 7	n=35

Principal's administrative experience

Although they are an older group, only 33 percent of the public school principals have had 11 or more years of full-time administrative experience. Thirty-two percent of them have 0-5 years experience as compared to 71 percent for the non-public school principals. Table 9 shows that for the total group of principals in District of Columbia schools, 40 percent have had five or less years of full-time administrative experience.

Table 9: Total Number of School Years of Full-time Administrative Experience

Years of administrative experience	Percentages		
	Public	Non-public	Combined
0-5	32	71	40
6-10	36	29	34
11-15	18	-	14
16-20	11	-	9
Over 30	4	-	3
	n=28	n= 7	n=35

Student Population

Number of days and hours of instruction

The number of days in the school year is shown in Table 10, and there is little difference between the two types of schools, with the majority reporting between 180-185 days. There is also not much variation in the number of hours per day each student (Grades 1-6) spends in school. The major difference is that 14 percent of non-public school principals report the average as 7 hours per day. See Table 11.

Table 10: Number of Days in Present School Year

Days in School Year	Percentages		
	Public	Non-public	Combined
176-179	21	14	20
180-185	71	86	74
186-189	7	-	6
	n=28	n= 7	n=35

Table 11: Hours Per Day Each Student (Grades 1-6) Spends in School

Number of Hours		Percentages		
		Public	Non-public	Combined
5		57	57	57
6		43	29	40
7		-	14	3
		n=28	n= 7	n=35

Half-day sessions

Table 12 shows that only 7 percent of public school principals had schools where some of the students in grades 1-6 were on half-day sessions, while none of the non-public school principals reported this.

Table 12: Percentage of Grades 1-6 on Half-Day Sessions

Half-day Sessions	Percentages		
	Public	Non-public	Combined
None	93	100	94
1-20%	7	-	6
	n=28	n= 7	n=35

Enrollment of school by grade

Table 13 shows the size of enrollments in the first two classes reported for each school, although some schools had more than two classes per grade (this data will be reported later). It was felt that focusing on two classes made the reports more comparable, since most of the non-public schools reported only two classes. Note that only four percent of public school principals reported both first grade classes one and two with 39 or more students. Compare this to the non-public school principals, of whom 57 percent reported 39 or more students in class one. Of the four non-public school respondents who reported a second first grade class, 50 percent had 39 or more students.

Even at grade six, this same pattern exists. Only four percent in one class and zero percent in the other class were reported by the public school principals to have 39 or more students, as compared to 58 percent and 33 percent respectively for the two non-public school classes reported by principals. This would suggest that the teacher-pupil ratio is much higher in non-public schools.

Table 13: Present Class-size in School by Grade and Class
(2 Classes per School Only)

	% Under 20	% 21-26	% 27-32	% 33-38	% 39-44	% 45 & over	N
Public: Gr. 1, Class 1	4	15	56	22	–	4	27
Class 2	4	15	63	15	–	4	27
NonPublic: Gr. 1, Class 1	14	–	14	14	14	43	7
Class 2	–	25	–	25	25	25	4
Public: Gr. 2, Class 1	8	15	35	38	4	–	26
Class 2	8	4	56	32	–	–	25
NonPublic: Gr. 2, Class 1	14	–	–	43	14	–	7
Class 2	–	–	40	20	20	20	5
Public: Gr. 3, Class 1	7	7	59	15	7	4	27
Class 2	–	7	67	22	4	–	27
NonPublic: Gr. 3, Class 1	14	–	–	43	43	–	7
Class 2	20	–	–	40	40	–	5
Public: Gr. 4, Class 1	4	11	48	33	4	–	27
Class 2	4	11	52	30	4	–	27
NonPublic: Gr. 4, Class 1	14	–	29	14	43	–	7
Class 2	20	–	40	–	40	–	5
Public: Gr. 5, Class 1	11	15	48	11	15	–	27
Class 2	4	19	56	15	7	–	27
NonPublic: Gr. 5, Class 1	14	–	–	29	62	–	7
Class 2	20	–	–	60	20	–	5
Public: Gr. 6, Class 1	4	11	48	33	4	–	27
Class 2	4	15	37	44	–	–	27
NonPublic: Gr. 6, Class 1	14	–	–	29	29	29	7
Class 2	–	–	–	67	33	–	3
Public: Kgn., Class 1	–	11	30	56	4	–	27
Class 2	–	15	33	48	4	–	27
NonPublic: Kgn., Class 1	–	–	–	67	33	–	3
Class 2	–	–	50	50	–	–	2

When percentages do not equal 100, it is a function of rounding error.

Enrollment make-up

As expected, Table 14 shows that 78 percent of the public schools and 57 percent of the non-public schools have enrollments that are ninety or more percent Negro. Non-public schools in the District of Columbia are more integrated than are the public schools.

Table 14: Percentage of Students in Each Grade Who Are Negro

	Percent of School Types		
Percent Negro	Public	NonPublic	Combined
None	-	-	-
0-9%	4	4	3
10-19%	-	-	-
20-29%	-	14	3
30-39%	-	14	3
40-49%	-	14	3
50-59%	-	-	-
60-69%	4	-	3
70-79%	-	-	-
80-89%	15	-	12
90-99%	56	57	56
All	22	-	18
	n=27	n= 7	n=34

Change in enrollment size

The active enrollment in some public and non-public schools showed increases during the past year, with 29 percent of the public and 14 percent of the non-public schools reporting increases of 1 to 10 percent (Table 15), and 11 percent and 0 percent respectively reporting 11 percent or greater increases. Most schools had about the same enrollment as the previous year (43 and 57 percent for public and non-public respectively), with a sizable number of non-public schools showing decreases (18 and 29 percent for public and non-public respectively).

Table 15: Best Description of Changes in Current Active Enrollment (Total Grades 1-6) As Compared to this Time Last Year

	Percentages		
Enrollment Change	Public	NonPublic	Combined
Down, by 11-20%	4	-	3
Down, by 1-10%	14	29	17
About same as last year	43	57	46
Up, about 1-10%	29	14	26
Up, about 11-20%	4	-	3
Up, by 21% or more	7	-	6
	n=28	n= 7	n=35

Patterns of absence

Table 16 shows the average daily percentage of absenteeism for each grade, separately for public schools, non-public schools, and both combined. It appears that, over all grades, public schools have more absenteeism than non-public schools. The percentages for the combined schools show that kindergarten has the highest absentee rate (53 percent reported rates of 6 percent or higher).

Only 32 percent of the total respondents reported absentee rates of 6 percent or higher for first grade; for second grade the figure was 38 percent; for third grade, 32 percent; for fourth grade, 29 percent; for fifth grade, 39 percent; and for sixth grade, 28 percent.

Table 16: Estimated Average Daily Percentage of Absenteeism Over Current School Year for Each Grade

Grades	Percentages in School Type and Grade																				
	Public							Non-public							Combined						
Percent	1	2	3	4	5	6	K	1	2	3	4	5	6	K	1	2	3	4	5	6	K
2% or less	25	32	39	39	39	39	26	43	43	43	43	43	43	-	29	34	40	40	40	40	23
3-5%	36	25	29	29	29	29	22	57	43	29	43	43	43	33	40	29	29	31	26	31	23
6-8%	21	32	21	18	14	14	33	-	14	14	14	14	14	33	17	29	20	17	26	14	33
9-11%	7	7	7	4	14	14	7	-	-	14	-	-	-	33	6	6	9	3	6	11	10
12-20%	11	-	-	7	-	-	7	-	-	-	-	-	-	-	9	-	-	6	-	-	7
Over 20%	-	4	4	4	4	4	4	-	-	-	-	-	-	-	-	3	3	3	3	3	3
1-6	n=28							n=7							n=35						
Kgn.	n=27							n=3							n=30						

Grouping of students

Homogeneous grouping is reported in Table 17, by grade, separately for the two types of schools and for both groups combined. For all grades, more than twice the percentage of non-public schools report this practice than do public schools. There is no major pattern by grade, with the exception of the sixth grades in non-public schools, where there is a decline in homogeneous grouping. This could be due to fewer sixth grade students or to the administrative feasibility of separating them into separate classes.

Table 17: Presence of Homogeneous Grouping of Students Into Classes, To Take Care of Different Ability Levels (Grades 1-6)

Groups	Percentages in School Type and Grade																							
	Public								Non-public								Combined							
	Grades								Grades								Grades							
	1	2	3	4	5	6	K	HS	1	2	3	4	5	6	K	HS	1	2	3	4	5	6	K	HS
Yes	25	24	21	25	25	25	8	0	57	71	71	71	71	43	100	0	31	34	31	34	34	29	15	0
No	75	75	79	75	75	74	92		43	29	29	29	29	57			69	66	69	66	66	71	85	
1-6	n=28								n= 7								n=35							
Kgn	n=25								n= 2								n=27							

Student population--juvenile court appearance

Few students in grades one and two were reported to have been required to appear before juvenile courts. As shown in Table 18, 96 percent of the public school principals and 100 percent of the non-public school principals reported zero percent going to court in both grades.

This virtually complete lack of juvenile court appearances continues for all non-public grades, except grade three, where 14 percent of the non-public principals reported that between one and two percent of their students has to go to court. The public school principals, however, reported a different picture. While they did not report more than 5 percent in any grade as going to court, the percent that reported at least some juvenile court appearances increased consistently with grade level; third grade, 7 percent; fourth grade, 19 percent; fifth grade, 50 percent; sixth grade, 53 percent.

Table 18: Estimated Percentage of Students (Grades 1-6) Required to Appear Before Juvenile Courts For One or More Offenses

Grades							Percentages in School Type and Grade											
	Public						Non-public						Combined					
Percent	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
0%	96	96	93	81	50	46	100	100	86	100	100	100	97	97	91	85	60	57
1-2%	4	4	7	15	50	46	-	-	14	-	-	-	3	3	9	12	40	37
3-5%	-	-	-	4	-	7	-	-	-	-	-	-	-	-	-	3	-	6
6-10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 10%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-4	n=27						n= 7						n=34					
5-6	n=28						n= 7						n=35					

Teaching Staff

Experiences of teaching staff

Although it was shown earlier (in Table 13) that public school principals have had a great deal more full-time teaching experience than non-public school principals, the reverse is true for current teaching staffs. Table 19 shows that only 20 percent of the public school teachers had twelve or more years of full-time teaching experience, as compared to 57 percent of the non-public school teachers. The modal teaching experiences are: public, 6-8 years; non-public, 12-14 years; overall, 6-8 years.

Table 19: Estimated Average Years of Teaching Experience Among Current Full-time Teaching Staff

Years of Experience	Percentages		
	Public	Non-public	Combined
3-5	8	14	9
6-8	50	14	42
9-11	23	14	21
12-14	12	43	18
15 or more	8	14	9
	n=26	n= 7	n=33

Male Teachers

No principal reported having male teachers in grades one and two, and only 14 percent of public school principals reported having one male teacher in grade three. This was repeated in grade four. However, 39 percent public and 14 percent non-public school principals, respectively, reported having one or more male fifth grade teachers (Table 20), while 46 percent public and 0 percent non-public, respectively, reported having one or two male sixth grade teachers.

Table 20: Number of Full-time Men Teachers

No. of Men Tchrs.	Percentages in School Type and Grade																	
	Public						Non-Public						Combined					
	Grades																	
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
None	100	100	86	86	61	54	100	100	100	100	86	100	100	100	89	89	66	63
1	-	-	14	14	32	21	-	-	-	-	14	-	-	-	11	11	29	17
2	-	-	-	-	7	25	-	-	-	-	-	-	-	-	-	-	6	20
	n=28						n= 7						n=35					

Turnover of Teachers

Table 21, in parts a, b, and c describes the problem of turnover of teachers. The following average numbers of teachers per school left during the school year: 2.04, public; .57, non-public; 1.74, combined. The following left after the school year: 4.55, public; 2.84, non-public; and 4.21 combined. Eighty-four percent of the public school principals reported being able to replace all teachers in a reasonable time, as compared to 100 percent of the non-public school principals.

Table 21: Teacher Turnover in Each School During 1966-67

a. Number of teachers leaving during school year

Number leaving	Percent Respondents		
	Public n=27	Non-public 2= 7	Combined n=34
0	22	43	26
1	26	57	32
2	15	-	12
3	19	-	15
4	7	-	6
5	7	-	6
6	-	-	-
7	4	-	3
Average Number per school	2.04	.57	1.74

b. Number of teachers leaving after school year

	Percent Respondents		
Number leaving	Public n=27	Non-public n= 7	Combined n=34
0	11	14	12
1	7	-	6
2	19	43	23
3	7	14	9
4	19	-	14
5	11	14	12
6	4	14	6
7	-	-	-
8	-	-	-
9	4	-	3
10	11	-	9
11	-	-	-
12	4	-	3
13	4	-	3
Average number per school	4.55	2.86	4.21

c. Able to replace all teachers in reasonable time

	Percent		
	Public	Non-public	Total
Yes	84	100	87
No	16	0	13
	n=25	n= 6	n=31

Certified teachers

The percentages of full time teachers reported by principals as fully certified by the District of Columbia are presented in Table 22. These can be changed to estimates of the actual percentages so certified and are presented in Table 22b.

Table 22a: Percentage of Full-time Teaching Staff, Grades 1-6, Fully Certified by State

	Percent		
	Public	Non-public	Combined
None	-	43	9
0-25%	4	-	3
26-50%	15	14	15
51-75%	33	-	26
76-100%	48	43	47
	n=27	n= 7	n=34

Table 22b: Percent of Teachers in Grades 1-6 that are Fully Certified in the District of Columbia

	Percent		
	Public	Non-public	Combined
% Certified	69	43	64

Schedule of special teachers

The next six tables, Tables 23 through 28, report on the presence or absence of special teachers. In all cases but part-time music teachers, the non-public schools provide less of these services than the public schools. However, many public school principals report having only part-time availability of special teachers. Overall, for both groups combined, only 57 percent have full-time music teachers. None have full-time remedial math teachers, 46 percent have full-time art teachers, 34 percent have full-time science teachers, 20 percent have full-time remedial reading teachers, and only 9 percent have full-time foreign language teachers.

Table 23: Presence of Full-time or Part-time Special Music Teacher

	Percent		
	Public	Non-public	Combined
Yes, full-time	71	-	57
No full-time, yes part-time	29	57	34
No full-time, no part-time	-	43	9
	n=28	n= 7	n=35

Table 24: Presence of Full-time or Part-time Remedial Math Teacher

	Percent		
	Public	Non-public	Combined
Yes, full-time	-	-	-
No full-time, yes part-time	64	14	54
No full-time, no part-time	36	86	46
	n=28	n= 7	n=35

Table 25: Presence of Full-time or Part-time Special Art Teacher

	Percent		
	Public	Non-public	Combined
Yes, full-time	57	-	46
No full-time, yes part-time	43	29	40
No full-time, no part-time	-	71	14
	n=28	n= 7	n=35

Table 26: Presence of Full-time or Part-time Special Science Teacher

	Percent		
	Public	Non-public	Combined
Yes, full-time	43	-	34
No full-time, yes part-time	57	14	49
No full-time, no part-time	-	86	17
	n=28	n= 7	n=35

Table 27: Presence of Full-time or Part-time Remedial Reading Teacher

	Percent		
	Public	Non-public	Combined
Yes, full-time	25	-	20
No full-time, yes part-time	68	57	66
No full-time, no part-time	7	43	14
	n=28	n= 7	n=35

Table 28: Presence of Full-time or Part-time Foreign Language Teacher

	Percent		
	Public	Non-public	Combined
Yes, full-time	11	-	9
No full-time, yes part-time	86	-	69
No full-time, no part-time	4	100	23
	n=28	n= 7	n=35

School Program

Accelerated curriculum

In non-public schools, the superior student in the lower grades has more chance of receiving an accelerated curriculum than does a child in the higher grades, and a child in public school has less chance than if her were in a non-public school. As Shown in Table 29, only 18 percent of the public schools have provision for an accelerated curriculum for better students in grades one through three, while 43 percent of the non-public schools have such provision in their curricula. Overall, the percentages are in the low twenties for all grades.

Table 29: Provision for an Accelerated Curriculum for Superior Students

Grades	Percent																	
	Public						Non-public						Combined					
Response	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Yes	18	18	18	18	21	21	43	43	43	29	29	14	23	23	23	20	23	20
No	82	82	82	82	79	79	57	57	57	71	71	86	77	77	77	80	77	80
	n=28						n= 7						n=35					

Policy on acceleration

Both types of schools have a rather negative policy on permitting children to be accelerated through the grades, with 50 percent of the public schools and 57 percent of the non-public schools reporting no acceleration permitted at all; and only 4 percent and 0 percent, respectively, reporting a policy whereby children are permitted to skip grades. See Table 30 for details.

Table 30: Policy on Acceleration

	Percent		
	Public	Non-public	Combined
No acceleration permitted	50	57	51
Children permitted to skip grades	4	-	3
Other (specify)	46	43	46
	n=28	n= 7	n=35

Use of intelligence tests

The pattern of grades in which the schools give paper and pencil intelligence tests or aptitude tests is shown in Table 31. The public schools report giving such tests to all students in grades four and six (so reported by 65 percent of the public school principals). The non-public schools report giving such tests in grades two (as reported by 100 percent of the non-public school principals), and four (reported by 86 percent of the non-public school principals).

Table 31: Grades (K-6) in which School Gives Paper and Pencil Intelligence or Aptitude Tests to All Students

	Percent					
	Public		Non-Public		Combined	
Grades	Yes	No	Yes	No	Yes	No
K	31	69	40	60	32	68
1	12	88	29	71	15	85
2	19	81	100	-	36	64
3	4	96	29	71	9	91
4	65	35	86	14	70	30
5	4	96	29	71	9	91
6	65	35	14	86	55	45
K	n=26		n= 5		n=31	
1-6	n=26		n= 7		n=33	

Standardized achievement tests

Standardized achievement tests are given to all students in all grades in all non-public schools, but only in grades two, four and six in the public schools. See Table 32 for these data.

Table 32: Grades (1-6) in which School Gives Standardized Achievement Tests to all Students

	Percent					
	Public		Non-public		Combined	
Grades	Yes	No	Yes	No	Yes	No
1	11	89	100	-	29	71
2	93	7	100	-	94	6
3	4	96	100	-	24	76
4	96	4	100	-	97	3
5	4	96	100	-	24	76
6	96	4	100	-	97	3
	n=27		n= 7		n=34	

Large-scale testing

Ninety-six percent of public school principals and one hundred percent of non-public school principals (97 percent overall) report an additional large scale testing program, other than paper and pencil intelligence tests, or standardized achievement tests, as shown in Table 33.

Table 33: Presence of Large-scale testing Program besides Pencil and Paper Intelligence Tests, Aptitutde Tests, or Standardized Achievement Tests

	Percent		
	Public	Non-public	Combined
Yes	96	100	97
No	4	-	3
	n=27	n= 7	n=34

Patterns of homework by grade

Non-public schools give more homework than do public schools in the lower grades, as can be seen in Table 34. While 50 percent of the public school principals reported that first graders are not usually given homework, only 14 percent of non-public school principals so answered. However, by third grade, there are only minor differences between the two types of schools.

Table 34: Estimated Average Amount of Homework Done By Each Child (Grades 1-6)

	Percent																	
Hours of Homework \ Grades	Public						Non-public						Combined					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Not usually given out-of-class assignments	50	25	4	4	4		14	14	14	14	-		43	23	6	6	3	
Less than 1 hr	50	75	86	75	36		86	86	71	57	43		57	77	83	71	37	
1 - 2 hours	-	-	11	21	61		-	-	14	29	57		-	-	11	23	60	
	n=28						n= 7						n=35					

Students taking remedial arithmetic

While Table 24 shows the non-public schools had fewer remedial math teachers than did public schools (no teachers, either full or part-time; public, 36 percent; non-public, 86 percent), Table 35a shows that in grades two, three, four and six, non-public schools have more students taking out-of-class or special class work in remedial arithmetic. Estimates of the percentages receiving this help can be derived from the table and are given in Table 35b.

Table 35a: Percentage of Students in Grades 1-6 Taking Some Out-of-Class or Special Classwork in Remedial Arithmetic

Grades	Public						Non-public						Combined					
Percent	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
0%	85	77	74	63	59	59	86	71	57	57	71	71	85	76	71	62	62	62
1-5%	15	23	15	30	33	33	14	14	29	29	14	14	14	21	18	29	29	29
6-10%	-	-	11	7	7	7	-	-	-	-	14	-	-	-	9	6	9	6
11-15%	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	3
16-20%	-	-	-	-	-	-	-	14	14	14	-	-	-	3	3	3	-	-
1-2	n=26						n= 7						n=33					
3-6	n=27						n= 7						n=34					

Table 35b: Estimated Percent of Students Receiving Help in Remedial Arithmetic

Grade	Public	Non-public	Combined
1	.5	.4	.5
2	.7	2.9	1.2
3	1.3	3.4	1.8
4	1.5	3.4	1.9
5	1.6	1.5	1.6
6	1.6	2.2	1.7

Remedial Reading

In the same manner, Table 36a presents the principals' responses to a question on "out-of-class or special classwork in remedial reading." Estimates of the actual percent receiving this remedial reading help can be derived from this table and are presented in Table 36b.

Table 36a: Percentage of Grades 1-6 Taking Some Out-of-class or Special Classwork in Remedial Reading

Grades	Percent Special Reading Work																	
	Public						Non-public						Combined					
Percent	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
0%	80	62	30	15	11	15	57	43	29	29	29	57	75	58	29	18	15	24
1-5%	20	31	52	59	59	52	14	43	43	29	29	-	19	33	50	53	53	41
6-10%	-	8	19	22	19	19	29	14	14	29	29	43	6	9	18	24	21	24
11-15%	-	-	-	4	11	11	-	-	-	-	14	-	-	-	-	3	12	9
16-20%	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	3
Over 20%	-	-	-	-	-	4	-	-	14	14	-	-	-	-	3	3	-	-
1	n=25						n= 7						n=32					
2	n=26						n= 7						n=33					
3-6	n=27						n= 7						n=34					

Table 36b: Estimated Percent of Students Receiving Help in Remedial Reading

Grade	Public	Non-public	Combined
1	.6	2.7	1.1
2	1.6	2.4	1.7
3	3.1	5.9	3.7
4	4.1	6.7	4.7
5	4.7	5.0	4.8
6	5.2	3.4	4.9

These estimates are not as precise as those given in Table 35b, as the assumption had to be made that a response of "over 20 percent" in Table 35a was equal to a value of 25 percent. This assumption is tenuous, but is only needed in grades 3 and 4 for non-public schools and, to a lesser extent, for total group.

Note: These estimates are derived, following the paradigm given below:

Given: Three classes of 10 students each, with 5 receiving aid in class one, 4 receiving aid in class two, and 0 receiving aid in class three. The actual percent receiving aid is, of course, 9/30 or 30.00. The results would be reported in the Table series as:

	% Total Group
0%	33
40%	33
50%	33

Then the estimate of overall percentages would be: .00 x .33 +.40 x .33 + .50 x .33 which equals .2970 or 29.7 percent.

Remedial summer program

The percentages of those students taking repeat or remedial summer work are presented in Table 37. Note that only public school principals checked "over 20 percent." The solumns for the combined group of schools, as reported by principals, show a steady decrease in the percentage of students not taking any repeat summer work (0% of summer work) as the grades go up from one to five, although grade six shows a slight rise. It is noteworthy that in 6 percent of all D.C. schools, more than 20 percent of all first and second graders take repeat or remedial summer work. In an additional 9 percent of the schools, between 11 and 20 percent of the first grade students take such work.

Table 37: Percentage of Grades 1-6 Taking Repeat or Remedial Summer Work

	Percentages in School Type and Grade																	
% Taking Remedial Wk / Grades	Public						Non-public						Combined					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
0%	40	32	16	4	4	8	57	29	29	14	14	29	44	31	19	6	6	12
1-5%	28	36	52	58	62	58	29	57	57	71	43	43	28	41	53	61	58	55
6-10%	16	20	12	27	27	19	-	-	-	-	29	14	13	16	9	21	27	18
11-15%	4	4	16	4	-	4	-	-	-	-	-	-	3	3	13	3	-	3
16-20%	4	-	4	4	4	8	14	14	14	14	14	14	6	3	6	6	6	9
Over 20%	8	8	-	4	4	4	-	-	-	-	-	-	6	6	-	3	3	3
1-3	n=25						n= 7						n=32					
4-6	n=26						n= 7						n=33					

Special
summer
work

The same reduction in the percentage of students not taking any work, as they progress up the grade ladder, is shown in Table 38, which presents the distribution of responses for special non-remedial summer work (as compared to remedial or repeat work). From Grade four on, more than half of the principals report at least some students taking special summer work.

Table 38: Percentage of Grades 1-6 Taking Special Work During Summer

	Percentages in School Type and Grade																	
% Taking Remedial Wk / Grades	Public						Non-public						Combined					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
0%	81	74	59	46	42	46	57	57	57	57	43	29	76	71	59	48	42	42
1-5%	11	19	30	42	46	42	29	29	29	29	43	57	15	21	29	39	45	45
6-10%	7	4	4	8	8	8	-	-	-	-	-	14	6	3	3	6	6	9
11-15%	-	-	7	4	4	4	-	-	-	-	14	-	-	-	6	3	6	3
16-20%	-	-	-	-	-	-	14	14	14	14	-	-	3	3	3	3	-	-
Over 20%	-	4	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
1-3	n=27						n= 7						n=34					
4-6	n=26						n= 7						n=33					

Summer programs are not offered by 25 percent of the public schools and by 14 percent of the non-public schools. Of those who do offer courses, 32 percent of public schools and 29 percent of non-public schools offer repeat courses only. See Table 39.

Table 39: Description of Summer Programs (Grade 1-5)

Description	Percent Public	 NonPublic	 Combined
Repeat Course only	32	29	21
New work for certain students	4	14	6
No summer program	25	14	23
Repeat & new work for certain students	4	14	6
Other	36	29	34
	n=28	n= 7	n=35

Guidance facilities

As can be seen in Table 40, the majority (57 percent) of non-public schools have no physical facilities for guidance, and a further 29 percent have minimal or inadequate facilities. In the public schools a majority have minimal or inadequate facilities (63 percent), but only 15 percent report no facilities at all.

Table 40: Adequacy of Physical Facilities for Guidance

	Percent Public	 NonPublic	 Combined
No facilities available	15	57	24
Minimal or inadequate	63	29	56
About adequate for present needs	22	14	21
	n=27	n= 7	n=34

Library

Although the number of books in a library should be related to the number of pupils served, to have most meaning, Table 41 shows the distribution as it exists in Disctrict of Columbia schools. Since some of the public schools are quite large, it is to be expected that they would have the larger collections of books (46 percent have 3,000 or more, while none of the non-public schools have that many). However, in relation to the size of the total enrollment in the two types of schools (average 365 for non-public and 854 for public) the table below must be interpreted as showing no significant difference between the two types of schools in terms of the average number of books available per pupil, both providing between three to four books.

Table 41: Number of Books in Library

Number of Books	Percent Public	 NonPublic	 Combined
Less than 500	-	14	3
500-999	7	14	9
1000-1499	7	14	9
1500-1999	11	29	14
2000-2499	18	14	17
2500-2999	11	14	11
3000-or more	46	-	37
	n=28	n= 7	n=35

The next five tables, Tables 42 through 46, show the presence or absence of various activities for students. Thus, Table 42 shows that 71 percent of public and 29 percent of non-public school principals reported that their schools had student governments. Non-public schools, however, provided more after-school intramural athletics, with 29 percent for public and 57 percent for non-public schools, reported for boys, while 18 percent for public and 29 percent for non-public schools were reported for girls (Tables 43 and 44). Of public school principals, 43 percent reported after-school plays, as compared to 14 percent for non-public school principals. A majority of both types of schools, public and non-public, reported the presence of cultural programs during the day (75 and 56 percent, respectively).

Table 42: Presence of Student Government

Student Government	Percent		
	Public	Non-public	Combined
Yes	71	29	63
No	29	71	37
	n=28	n= 7	n=35

Table 43: Presence of After School Intramural Athletics for Boys

Boys' Intrmrl Athletics	Percent		
	Public	Non-public	Combined
Yes	29	57	34
No	71	43	66
	n=28	n= 7	n=35

Table 44: Presence of After School Intramural Athletics for Girls

Grls' Intrmrl Athletics	Percent		
	Public	Non-public	Combined
Yes	18	29	20
No	82	71	80
	n=28	n= 7	n=35

Table 45: Presence of After-School Plays

After-school Plays		Percent	
	Public	Non-public	Combined
Yes	43	14	37
No	57	86	63
	n=28	n= 7	n=35

Table 46: Presence of Special Cultural Programs During the Day

Sp. Dytme Cltrl Pro.	Percent		
	Public	Non-public	Combined
Yes	75	57	71
No	25	43	29
	n=28	n= 7	n=35

Program of religious education

As expected, Table 47 shows that only 4 percent of public school principals reported the presence of religious education (by released time), while 100 percent of non-public schools provided such education. This is also reflected in Table 48.

Table 47: Provision by School for Religious Education

Religious Education		Percent	
	Public	NonPublic	Combined
Yes, within regular curriculum	-	100	20
Yes, by released time, for all pupils	4	-	3
No	96	-	77
	n=28	n= 7	n=35

Adult education program

Public elementary schools are not widely used to provide for adult education. Only 7 percent have adult education programs, but 43 percent of the non-public schools are used for adult education, as shown in Table 48.

Table 48: Use of Buildings for an Adult Education Program (Day or evening)

Use of Bldgs for Adult Education		Percent	
	Public	Non-public	Combined
Used	7	43	14
Not used	93	57	86
	n=28	n= 7	n=35

School Environment

Building facilities

Most of the school facilities are quite old, with 61 percent of the public school buildings and 57 percent of the non-public school buildings being forty or more years old. In fact, only 18 percent of the public and none of the non-public buildings are under ten years old, with another 15 and 18 percent, respectively, reported as being between ten and twenty-nine years old (Table 49). To complete the picture, Table 50 shows that only 25 percent of the public and 43 percent of the non-public schools have had a major building renovation within the last five years.

Table 49: Age of the Main Building of the School Plant

Years	Percent		
	Public	Non-public	Combined
Less than 5 years old	4	-	3
5-9 years	14	-	11
10-14 years	11	14	11
15-19 years	4	14	6
25-29 years	4	-	3
30-34 years	-	14	3
35-39 years	4	-	3
40 years or more	61	57	60
	n=28	n= 7	n=35

Table 50: Amount of Time Since School Plant Received Last Major Renovation

Time since last major renovation	Percent		
	Public	Non-public	Combined
Less than 3 years	21	-	17
3-5 years	7	43	14
6-8 years	21	-	17
9-11 years	14	14	14
12-14 years	7	-	6
21 or more years	4	-	3
Has never had major renovation	25	43	29
	n=28	n= 7	n=35

Community facilities

The following table (Table 51) refers to community facilities readily available to the students. Even though all of those schools are located within Washington, D.C., there is a great deal of difference as to accessibility of these facilities. Only 81 percent of public school principals and 57 percent of non-public school principals felt that public libraries were readily available. In the same order (public and non-public), 48 and 57 percent felt that a museum was readily available, while only 33 and 57 percent felt that concerts were available for their students.

Table 51: Community Facilities Available to Students

Facilities Available	Percent		
	Public	NonPublic	Combined
Public Library	81	57	76
Museum	48	57	50
Concerts	33	57	38
Pblc lbrars	n=26	n= 7	n=33
Msms & Cncrts	n=27	n= 7	n=34

Neighborhood description

A description of the types of residences served by the two groups of schools is reported for the two groups of principals in Table 52. Twelve percent of the schools serve "low-cost homes"; 3 percent, "low-rental apartments"; 21 percent, "low-income areas"; and 9 percent "public housing" for a total of 45 percent. Only nine percent, over all, serve expensive housing (that is, 11 percent of the public schools and none of the non-public schools).

Table 52: Economic Level of Residences Served By School

Description of Residences	Percent		
	Public	NonPublic	Combined
Expensive private homes	11	-	9
Moderate-priced homes	19	29	21
Low-cost homes	15	-	12
High-rental apartments	4	-	3
Low-rental apartments	4	-	3
Low-income areas	19	29	21
About equally apartments and homes	19	43	24
Public housing	11	-	9
	n=27	n= 7	n=34

Home Environment: Language

The responses to a question about languages other than English spoken in the home are presented in Table 53a. This table shows that 56 percent of public school principals and 14 percent of non-public school principals reported that none of their students came from homes where a second language was spoken. Estimates of the actual percentages are presented in Table 53b.

Table 53a: Percentage of Principals Indicating Proportion of Students from Homes Where One or More Languages other Than English Spoken

	Percent		
	Public	Non-public	Combined
None	56	14	47
1-9%	33	86	44
10-19%	7	-	6
20-29%	4	-	3
	n=27	n= 7	n=34

Table 53b: Estimates of Percentages of Schools Where Students Have Languages Other Than English Spoken

Public	Non-Public	Total
3.7%	4.3%	3.9%

Studies by Citizens' Groups

Studies of the schools by citizens' groups within the last three years were reported by about 15 percent for both groups of principals (Table 54).

Table 54: Occurrence of a School Study By Any Citizens' Groups Within The Last Three Years

Study by Citizens' Group	Percent		
	Public	Non-public	Total
Yes	15	14	15
No	85	86	85
	n=27	n= 7	n=34

A SCALE OF AUTONOMY OR INDEPENDENCE OF ACTION FOR ELEMENTARY SCHOOL PRINCIPALS

In order to help evaluate the principals' effect on the learning process of individual children, it is important to be able to assess the freedom principals possess to make decisions affecting the school environment. Therefore, many items were written on various areas of responsibility in the hope that these would form a scale. The areas covered were:

1. Buying supplies	3 items
2. Selecting texts	4 items
3. Evaluating teachers	3 items
4. Selecting teachers	3 items
5. Selecting non-teaching personnel	3 items
6. Changing curriculum	4 items
7. Recruiting teachers	5 items
8. Handling special programs	4 items
9. Transferring unsatisfactory teachers	3 items

10.	Transferring unsatisfactory instructional aides	3 items
11.	Transferring unsatisfactory clerks	3 items
12.	Transferring unsatisfactory custodians	3 items

Each of these items was scored one or zero, with the value one going to those items which were judged to be an "independent or decentralized" response. Of the forty-one items, all but eleven items had yes responses so scored. The individual response patterns were then totaled for each respondent and item analysis carried out, with the distribution dichotomized at the median of the scores (23 and below = low; 24 and above = high). The items and their difficulty (p) levels and phi coefficients are presented below.

Please answer yes or no to each item given below:

(p)	Phi	Item	(Scoring Key)
		1. As principal, I:	
.63	.08	May buy whatever supplies I think the school needs as long as I stay within my budget allotment...........	1. Yes I No ___
.34	.22	May buy only certain types of supplies without getting prior approval................................	2. Yes I No ___
.66	.38	Must have prior approval for any purchasing of supplies..	3. Yes ___ No 1
		2. As principal, I:	
.11	-.01	May select any texts I wish, as long as there are sufficient funds..................................	4. Yes I No ___
1.00	.00	May select texts only from an approve, but large list	5. Yes I No ___
.03	-.18	May select texts only from a narrowly prescribed list	6. Yes I No ___
1.00	.00	May state my need for texts and they will be selected for me..	7. Yes ___ No I
		3. As principal, I:	
.31	-.14	Have sole responsibility for evaluation of the teachers in my school..................................	8. Yes I No ___
.54	.26	Share major responsibility with a supervisor from the central office in the evaluation of the teachers in my school...	9. Yes I No ___
1.00	.00	Have only minor responsibility for the evaluation of the teachers in my school........................	10. Yes ___ No I
		4. As principal, I have the responsibility to:	
.23	.39	Select and screen applicants for any teacher's post in my school.....................................	11. Yes I No ___

.26	.44	Set qualifications for any vacant teaching post in my school..................................	12. Yes_I_No___
.91	-.09	Place teachers wherever I think they will be of most help to the school..............................	13. Yes_I_No___

5. As principal, I have the responsibility to:

.06	.24	Select and screen applicants for any non-teaching post in my school..............................	14. Yes_I_No___
.20	.20	Set qualifications for any vacant non-teaching post in my school..................................	15. Yes_I_No___
.66	.14	Place non-teaching personnel wherever I think they will be of most help to my school..................	16. Yes_I_No___

6. As principal, I have the authority to:

.29	.24	Make whatever changes in the curriculum my staff and I feel are necessary..............................	17. Yes_I_No___
.74	.08	Make moderate departures from the established curriculum..	18. Yes_I_No___
.77	.02	Make only minor departures from the established curriculum..	19. Yes___No_I_
.86	.09	Make no changes in the established curriculum without getting prior approval.........................	20. Yes___No_I_

7. As principal, it is my responsibility to:

.43	.26	Recruit teachers..	21. Yes_I_No___
.20	.49	Interview and screen all applicants for teaching positions..	22. Yes_I_No___
.14	.23	Select teachers from a small group of referred candidates..	23. Yes_I_No___
.89	.14	Decide where teachers placed in my school will serve best	24. Yes_I_No___
.43	.38	Accept placement of teachers made in the central office..	25. Yes___No_I_

8. As principal, I:

.91	.11	Initiate special programs for the children in my school...	26. Yes_I_No___
.71	.14	Approve or disapprove any special programs suggested for the children in my school....................	27. Yes_I_No___
.86	.09	Coordinate any special programs to be put in my schl	28. Yes_I_No___
.74	.08	Must accept whatever special programs are put into my school..	29. Yes___No_I_

9. As principal, I:

.09 .30 May transfer or dismiss any teacher whose performance
is unsatisfactory....................................30. Yes_I_No___
.97 .18 May recommend transfer or dismissal of any teacher
whose performance is unsatisfactory..................31. Yes_I_No___
.94 .25 Have little to say about the transfer or dismissal of
any teacher whose performance is unsatisfactory.......32. Yes___No_I_

10. As principal, I:

.20 .49 May transfer or dismiss any instructional aide whose
performance is unsatisfactory........................ 33. Yes_I_No___
.77 .02 May recommend transfer or dismissal of any
instructional aide whose performance is unsatisfactory34. Yes_I_No___
.91 .32 Have little to say about the transfer or dismissal of
any instrctnl aide whose prfrmnce is unsatisfactory.. 35. Yes___No_I_

11. As principal, I:

.14 .40 May transfer or dismiss any clerk or secretary whose
performance is unsatisfactory...................... 36. Yes_I_No___
.86 -.23 May recommend transfer or dismissal of any clerk or
secretary whose performance is unsatisfactory....... 37. Yes_I_No___
.94 .25 Have little to say about the transfer or dismissal
of clerk or secy with unsatisfactory performance.... 38. Yes___No_I_

12. As principal, I:

.00 .00 May transfer or dismiss any custodian whose performance is unsatisfactory............................ 39. Yes_I_No___
.97 .18 May recommend transfer or dismissal of any custodian
whose performance is unsatisfactory................. 40. Yes_I_No___
.83 -.14 Have little to say about the transfer or dismissal of
any custodian whose performance is unsatisfactory... 41. Yes___No_I_

It is interesting to note that at least some principals can transfer or dismiss teachers (.09), instructional aides (.20), clerks or secretaries (.14), but none can transfer or dismiss a custodian.

The overall Kuder-Richardson 20 reliability was .58, while the K-R 21 was only .20.

Since phi coefficients reflect the discriminatory power of an item, and the value of phi is severely limited when the marginals become too extreme (under .10 and over .90), items with these marginals were dropped from further consideration, and a second analysis was run without those items with extreme marginals, and phi coefficients computed for the remaining 27 items. A different subset of eleven items was then selected as a scale and rerun. The item statistics are given below:

Item	Old #	(P)	Phi
1	3	.66	.74
2	4	.11	-.01
3	9	.54	.37
4	11	.23	.53
5	12	.26	.44
6	15	.20	.34
7	20	.86	.09
8	25	.43	.61
9	29	.71	.40
10	33	.20	.34
11	36	.14	.40

The K-R (20) reliability was .75 and the K-R (21) was .63.

Since items 2 and 7 (old numbers 4 and 20) have quite low phi's, they were dropped and a third analysis run.

The final analysis of the nine items was run, giving a K-R (20) reliability of .79 and a K-R (21) reliability of .71. The item statistics are presented below.

Scale of Autonomy of Elementary School Principals

(p)	Phi			Key	Old #
			As principal, I:		
.66	.74	1.	Must have prior approval for any purchasing of supplies	Yes___ No_I_	3
.54	.37	2.	Share major responsibility with a supervisor from the central office in the evaluation of the teachers in my school	Yes_I_ No___	9
			As principal, I:		
.23	.53	3.	Select and screen applicants for any teacher's post in my school	Yes_I_ No___	11
.26	.44	4.	Set qualifications for any vacant teaching post in my school	Yes_I_ No___	12
.20	.34	5.	Set qualifications for any vacant non-teaching post in my school	Yes_I_ No___	15
.43	.61	6.	Accept placement of teachers made in the central office	Yes___ No_I_	25
.71	.40	7.	Must accept whatever special programs are put into my school	Yes___ No_I_	29
			As principal, I:		
.20	.34	8.	May transfer or dismiss any instructional aide whose performance is unsatisfactory	Yes_I_ No___	33
.14	.40	9.	May transfer or dismiss any clerk or secretary whose performance is unsatisfactory	Yes_I_ No___	36

The above procedure of selecting items for a scale capitalizes on chance variations that exist in a single sample, and the scale will be cross-validated on a different sample of elementary school principals, including as wide a distribution of school systems as possible.

It is possible, however, to investigate the validity of this scale for our sample of thirty-five respondents. Since the selection of items was done without regard to any external criterion, as estimate of validity would be the correlation of the total score to such criterion, even using the norming sample. The sample was composed of twenty-eight public school principals and seven non-public school principals. From a knowledge of the District of Columbia public public school system, it is reasonable to call it "centralized" and to call the non-public schools, by comparison, "decentralized." Thus the scale should distinguish between the two types of schools.

The distribution of scores for the test was:

Score	Frequency
0	2
1	6
2	8
3	6
4	4
5	2
6	2
7	1
8	3
9	1

When a two-by-two table is developed, the phi coefficient is an estimate of the validity of the scale.

1. Let scores 0 - 4 be called low, and scores 5 to 9 be called high.

	Low	High	
Public	26	2	28
Non-public	0	7	7
	26	9	35

and ϕ = .85, an excellent validity.

A further analysis of the data was made to see if the items formed a Guttman scale. It was found that items 2 and 5 should be dropped. When they were dropped, the Guttman scale patterns was as follows:

	Item Number							
Score	7	1	6	4	3	8	9	Frequency
7	X	X	X	X	X	X	X	4
6	X	X	X	X	X	X		1
5		X		X	X	X	X	1
4	X	X	X		X			1
4	X	X		X	X			1
3	X	X	X					6
3	X	X		X				1
3	X		X			X		1
2	X	X						4
2	X		X					1
2		X	X					1
1	X							5
1		X						3
1				X				1
0								4
P	.71	.66	.43	.26	.23	.20	.14	

K-R (20) reliability for these seven items = .811
K-R (21) reliability for these seven items - .73
Validity coefficient, ϕ, = .91

	0-3	4-7	
Public	27	1	28
Non-public	0	7	7
	27	8	35

$$CR=1-\frac{13}{7 \times 35} = .947$$

Guttman's Coefficient of Reproducibility =

$$1-\frac{\#\ \text{Errors}}{\#\ \text{Items} \times \#\ \text{Respondents}} = .947$$

APPENDIX

The treatment of the data in this report is, of course, only a sample estimate and is subject to sampling fluctuations. To get an idea of the possible magnitude of error that could be involved in this type of estimation, let us compute the standard error for the worst case (i.e., when the estimated percent, or proportion, is fifty).

$$\sigma_p = \sqrt{\frac{N - n}{N - 1} \cdot \frac{pq}{n}}$$

where N = number in population
n = number in sample
p = estimated proportion
q = 1 - p

Thus, for a population of 140, and a sample size of 35, with p = .5 (50%)

$$\sigma_p = \sqrt{\underline{140 - 35} \cdot \underline{.5 \times .5}} = \sqrt{.005394} = .073$$

Thus, the 95 percent confidence limits would be approximately $.50 \pm 2\,(.073)$ or .354 to .646. This means that there is a 95 percent probability that any sample figure we find for the total sample group that is 50 percent, would not be lower than 35 percent or higher than 65 percent in the total population. The chart below has some reference figures that will help to evaluate the data in this report.

Sample Estimate %	95 percent confidence limits	
	Lower Limit	Upper Limit
10	00	20
20	08	32
30	17	43
40	26	54
50	35	65
60	46	74
70	57	83
80	68	92
90	80	100

To evaluate the differences that appear between our samples from the two populations of elementary school principals, note that, under the null hypothesis, the proportions favoring an issue are the same for both groups (Ho: $\pi_1 = \pi_2 : \pi$). Both sample proportions, p_1 and p_2 are unbiased estimators of the population parameter π, and the best estimate of π comes from a pooling of the two samples. Then:

$$Z = \frac{p_1 - p_2}{\sqrt{p(1-p)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

where: $p = \frac{y_1 + y_2}{n_1 + n_2}$, where y_1 = number yes in Sample 1.

To find a rough approximation of the smallest difference that would be statistically significant with a Type One error of .05 or less, take the case where the standard error is greatest; namely, when p = .5. Then, letting Z be approximately equal to two (2), we have

$$2 \cdot \sqrt{.5(.5)\ \frac{1}{28} + \frac{1}{7}} = p_1 - p_1$$

and .042 = least difference significant at .05. If we wish to use the finite correction term here also

$$p_1 - p_1 = .42\ \frac{N-n}{N-1}$$

and the smallest significant difference = .037.

Chapter 8

Three Views of the Teacher Aide

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Perhaps the most important issue requiring agreement between teachers and teacher aides is that of the teacher aide's role. Indeed, agreement on this point is critical to the effective use of non-professionals in the classroom. Principals, teachers, and teacher aides have differing percepts regarding this matter. It is important to study these differences in the interest of promoting good working relationships between teachers and teacher aides. In order to respond to this need selected groups of principals, teachers, and teacher aides in the District of Columbia were questioned regarding eight categories of teacher aide activities: (1) planning the classroom program; (2) gathering materials for learning; (3) working with resources the teacher has selected; (4) preparing materials the teacher has selected; (5) working with small groups or individuals as directed by the teacher; (6) clerical work; (7) on-going activities; (8) other non-instructional activities. Principals and teachers turned out to be virtually in agreement on preferred roles for teacher aides, while the aides themselves differed markedly in interpreting their roles. The problem of aides acting as substitute teachers is highlighted and nine major questions regarding the teacher aide role are raised.

If one were to list in priority order the issues about which there should be agreement between the teacher and the teacher aide, the "nature of the task to be performed by the aide" would surely rank among the highest. Indeed, radically different views about the nature of the aide's role between the "helped" and the "helper" would result in, at best, a poor relationship between the two, and at worst, the elimination of the aide from the classroom.

During the Spring of 1968, as a part of the larger study examined in this anthology, data regarding the role of the teacher aide were obtained from teachers, principals and teacher aides employed in public and parochial elementary schools in Washington, D. C. The primary purpose of the study was to investigate the current role of the teacher aide in terms of what the three groups thought the teacher aide's role should be and then to examine the percepts of each group relative to the other two.

This study was prompted, in part, by a number of informal comments made to the investigator by teachers, principals and teacher aides with whom he had spoken in the Washington metropolitan area. For example, principals indicated in at least two cases that "teachers often find it difficult to plan activities for the teacher aide" and that "they often resist turning over any direct instructional responsibilities to the teacher aide." Teachers indicated on several occasions that their aides were "not qualified to perform instructional duties" and at the same time "resented being asked to perform such quasi-custodial tasks as erasing and cleaning of blackboards, straightening up chairs and desks, supervising youngsters in the lavatories, etc." Several teacher aides suggested that the teachers saw them as rivals for the attention of the children and that "the teacher wants a maid or a baby sitter rather than an aide."

Importance of differences in percepts

The point which is important here is not the nature of the specific differences regarding the teacher aide's role, as informally articulated by selected non representative individuals. Rather, it is that there seem to be major differences in the percepts of what the teacher aide's role should be. These differences would appear to get in the way of a good working relationship between the teacher and teacher aide, and they may be sufficiently widespread among principals, teachers, and aides to warrant their systematic study.

Principals, teachers and aides contacted

In order to look at this issue in an orderly way, selected groups of teachers, principals and teacher aides in the District of Columbia were asked to indicate which specific activities (within eight general categories shown in summary Table 1 below, page 4) they felt that the teacher aides should be performing.

One hundred and sixty nine or 94.6 per cent of all teacher aides in the District of Columbia public schools participated in the study. Therefore, one might reasonably assume that the summary percentages indicated in all tables and figures indeed reflect the attitudes of the teacher aides as a total group.

The elementary school principals questioned in this study represented a 25% proportional stratified random sample of public and Catholic parochial principals in Washington, D.C. This involved twenty-eight public school principals and seven parochial school principals, a total of thirty-five. This sample can also be considered representative of the total group.

However, the thirty-three teachers from whom data was obtained were from two schools only; one public and one parochial. While there is no reason to believe that these teachers are different in any general way from the large majority of teachers in the District of Columbia, there is no attempt here to assume that this population of teachers is necessarily representative

Prior to a detailed description of the data, perhaps some general comments are in order regarding the summary.

I. The principals and teachers are virtually in complete agreement regarding the kinds of duties teacher aides should perform.

II. The principals and teachers generally agree that the teacher aides should perform all of the duties represented in the eight categories.

III. The teacher aides view their role very differently from the teachers or the principals.

IV. The teacher aides are uniformly negative about performing all of the duties represented by the eight categories. That is, in all but one category, fewer than half of the aides felt that they should be performing the particular duty concerned. It is interesting to note that they seem to be more positive about duties related to direct instructional activities, e.g., gathering materials for learning (53%) and preparing materials the teacher has selected (45.2%) than for non-instructional tasks, e.g., clerical work (27.5%) and non-instructional activities (23.2%). The average percentage of teacher aides who felt that they should be performing the duties in all the major categories was 32%.

Highlights of summary percepts

V. The teachers and principals apparently view the aides as "junior teachers" or "assistant teachers" as the great majority of the teachers and principals feel that the aides should be performing a number of rather direct instructional activities. This will be clearer as we examine in greater detail the responses in the subdivisions of each category. Table I (see next page) shows the summary percepts of teachers, principals and teacher aides regarding the kinds of duties teacher aides should perform. The reader will note that Table I is followed by Figures 1 through 11, which present these data in greater detail, by category:

TABLE I: Summary Data

	Work of the Teacher Aide	N=(33) Teacher %	N=(35) Principal %	N=(169) T.Aide %
I	Planning the classroom program:	84	85	24.5
II	Gathering materials for learning	80	88	53
III	Working with resources the teacher has selected:	75.5	77.8	27.4
IV	Preparing materials the teacher has selected:	82.8	90.8	45.2
V	Working with small groups or individuals as directed by the teacher in: a. Listening and viewing	80	88	36.8
	b. Speaking	80.8	80	39.3
	c. Providing for student experience	68.2	89.8	40.5
	d. Reading	82.6	94	23
	e. Writing	74.2	87.2	17.5
	f. Developing study skills	85.8	91.3	21.3
	g. Dramatics, Role-playing	88.9	86	38
	h. Physical Education	95	93.3	35.7
	i. Educational games involving skills	57	93.3	35.7
VI	Clerical Work	83.3	89.7	27.5
VII	On-going Activities	69.7	85.2	19.5
VIII	Other non-instructional Activities	75.7	93.3	23.2

Instructional Duties

FIGURE 1: Planning the Classroom Program (Category I)

	Teachers %	Principal %	T.Aides %
a. Planning with teacher for small group work	84	88	24
b. Recording direction or plans for children's work on charts, blackboard, dittos	84	82	25

Here teachers and principals indicate an interest in having the teacher aide participate directly in the planning of small group instruction, although the nature of such planning is unclear. Both groups show an interest in having the teacher aide record such plans in appropriate places. Three-fourths of the teacher aides showed no interest in performing such activities.

FIGURE 2: Gathering Materials for Learning (Category II)

	Teachers %	Principal %	T.Aides %
a. Books, pamphlets	72	85	75
b. Tapes, films, filmstrips, slides, projectors, etc.	81	88	50
c. Games, puzzles, specimens (e.g., plants, animals, minerals, etc.) mathematics, blocks, sticks, physical education equipment	87	91	34

Teacher aides showed considerable interest, agreeing with teachers and principals, in gathering such things as books and pamphlets, less interest in gathering audio-visual materials, and least interest in gathering other instruction-related materials. The indicated interest here may be more a function of the teacher aides' awareness of what books and pamphlets are, relative to the other materials, than an unwillingness to actually gather or collect the other kinds of instructional materials.

FIGURE 3: Working with Resources the Teacher has Selected (Category III)

	Teachers %	Principal %	T Aides %
a. Arranging for community persons to come in for specific situations	42	51	52
b. Writing for free and inexpensive materials	78	66	10
c. Ordering audio-visual equipment	72	74	13
d. Setting up and operating audio-visual equipment	97	89	45
e. Filling out forms for supplies	81.8	91	30
f. Handling, storing and giving out books, materials, and supplies, audio-visual equipment, etc.	90.9	86	16
g. Setting up and keeping resource file	66.7	88	26

Resources for learning: community involvement

The teachers and principals generally agree that aides should arrange, order, set up and handle resources for learning and again, in general, the aides do not agree. A careful perusal of Figure 3 suggests at least two points which are worthy of special attention. First, aides as a group are more interested in arranging for community persons to come into the school than they are in arranging for other teaching resources. Conversely, teachers and principals seem less enthusiastic about this task for teacher aides than they do about other teacher aide activities. Second, only 10% of the teacher aides indicated that they should be writing for materials. This could well be a function of their individual backgrounds and academic histories.

FIGURE 4: Preparing Materials the Teacher has Selected (Category IV)

	Teachers %	Principal %	T.Aides %
a. Collecting, organizing and mounting pictures	84.8	86	62
b. Making transparencies	66.7	86	16
c. Preparing taped materials for children to use	57.6	82	25
d. Typing and duplicating materials	100	97	38
e. Preparing and setting up bulletin boards and table displays	90.9	94	65
f. Preparing art materials	97	100	65

Preparing materials

Again, the teachers and principals tend to agree regarding the aides' responsibilities in this area. The aides also feel, though to a lesser degree, that they should be organizing and mounting pictures, preparing bulletin boards, table displays and art materials. They are least interested in making transparencies and preparing taped materials.

Section V of the inventory to which the three groups responded is of particular significance in that it related to teacher aide activities which involve direct relationships with students in support of the instructor.

FIGURE 5: Working with Small Groups or Individuals as directed by the Teacher (Category V)

a. Listening and Viewing	Teachers %	Principal %	T.Aides %
1. Operating tape recorder, film projector or record player	97	94	85
2. Supervising children at listening and viewing centers	100	94	18
3. Playing listening games with children	93.9	91	41
4. Previewing visuals before they are used	57.6	76	40
5. Preparing introductions to audio-visual materials	51.5	85	0

Listening and viewing

Interestingly, all three groups agree that the aides should be operating the projectors, tape recorders, etc., this being one of the few areas where such agreement was noted. It is also important to note that none of the aides felt they should be "preparing introductions to audio-visual materials." This activity obviously implies the writing of or "creation" of materials, a task apparently rejected by the aides. On the other hand, over 50 percent of the teachers and 85 percent of the principals felt aides should be doing this. This represents one of the most striking differences in percepts of the three groups regarding the aides' responsibility for producing instructional materials.

FIGURE 6: Working with Small Groups or Individuals as directed by the Teacher (Cont'd Category V)

b. Speaking	Teachers %	Principals %	T.Aides %
1. Helping child prepare an oral report	66.7	80	22
2. Helping child tell a story using flannel board, movie, puppets, etc.	84.8	80	35
3. Taping children's discussions speaking and reading	90.9	80	61

Speaking

A pattern, similar to the one illustrated in Figure 5, is noted here (i.e., the aides seem reluctant to get involved in helping in the area of speaking except in the mechanical process of tape recording discussions.)

FIGURE 7: Working with Small Groups or Individuals as directed by the Teacher (Cont'd Category V)

c. Providing for student experiences	Teachers %	Principals %	T.Aides %
1. Arranging field trips	42.4	80	80
2. Accompanying teacher and children on trips	100	97	33
3. Gathering science materials	81.8	86	9
4. Helping children with project work	90.9	94	22
5. Helping children to share their experiences	87.9	91	8
6. Helping children to observe weather, plants, animals, etc. to see if changes have taken place	6	91	90.9

Student experiences

Principals and aides appear to agree regarding the aide's responsibility for arranging field trips (note item 1). However, less than 50 percent of the teachers feel this is an activity appropriate for the aides.

FIGURE 8: Working with Small Groups or Individuals as directed by the Teacher (Cont'd Categories Vd through Vi)

d. Reading	Teachers %	Principals %	T.Aides %
1. Reading and telling stories to small groups	87.9	94	10
2. Listening to a child read	72.7	97	32
3. Helping check books in and out of a classroom library	87.9	96	20
4. Helping a child to choose a book	81.8	89	30
e. Writing			
1. Helping a child to practice handwriting after a lesson	81.9	91	36
2. Helping a child with creative writing after a lesson	66.7	89	9
3. Recording a story told by a child	81.8	89	6
4. Recording an experience chart or group story	66.7	80	19
f. Developing Study Skills			
1. Setting up necessary learning materials	84.8	86	19
2. Helping children to use dictionaries, reference books, library books, pictures, etc.	81.8	94	32
3. Following up with individual children after lessons presented by teacher	90.9	94	13
g. Dramatics, Role-playing			
1. Helping children to use puppets to present a skit, etc.	90.9	89	67

(Continued)

FIGURE (Cont'd)

	Teachers	Principals	T.Aides
	%	%	%
2. Helping one child to perform in music, dance, etc.	87.9	86	18
3. Helping children to dramatize selected stories	87.9	83	29

h. Physical Education

1. Supervising indoor and outdoor activities	90.9	94	53
2. Helping with motor activities such as skipping	97	89	43
3. Helping with motor activities such as progressing from left to right, manipulating objects, cutting, pasting, etc.	97	97	11

i. Educational games involving skills such as:

1. Speaking	51.5	83	21
2. Spelling	72.7	89	43
3. Phonics	78.8	86	79
4. Mathematics	81.8	86	46
5. Listening	0	91	31

Reading, writing, study skills, dramatics, phys. ed., games

A perusal of the subcategories shown in Figures 5 through 8 yields information very similar to that discussed earlier. Essentially, teachers and principals feel that aides should be very active in supporting individual or small groups of youngsters in direct instructional activities while the aides themselves generally feel that these are activities which they should not perform.

Non-instructional Duties:

FIGURE 9: Clerical Work (Category VI)

	Teachers %	Principal %	T.Aides %
a. Correcting papers in math, spelling, etc.	93.9	86	18
b. Keeping attendance and other records	78.8	97	37
c. Recording test results	78.8	85	33
d. Gathering materials for child's folder	81.8	91	22

Clerical work

Teachers and principals indicate a generally high interest in having the teacher aide perform the selected clerical tasks, while on the other hand, the aides indicate a generally low interest. It is worthy of note, however, that approximately twice as many aides (37%) feel that they should be "keeping attendance" than feel they should be correcting papers (18%).

FIGURE 10: On-going Activities (Category VII)

	Teachers %	Principal %	T.Aides %
a. Gathering material selected by the teacher for social studies and science units	93.9	94	34
b. Typing and duplicating a student newspaper	75.8	86	12
c. Organizing and supervising club activities equipment	42.4	63	14
d. Training students to run audio-visual equipment	36.4	83	26
e. Helping children to make up work	84.8	94	25
f. Helping children with practice work given by the teacher	94.8	91	6

There are perhaps one or two exceptions here, to the pattern established in the other Figures. The teachers and principals disagree

On-going activities

to some extent over the aides' supervision of students' club activities. In general, the principals see this as something the aide should be doing, (63%), while less than half the teachers feel that this responsibility should be performed by the teacher aide. It is also interesting to note that only 6% of the teacher aides feel that they should be "helping children with practice work given by the teacher."

FIGURE 11: Other Non-instructional Activities (Category VIII)

	Teachers %	Principals %	T.Aides %
a. Housekeeping	69.7	88	13
b. Fixing the places where children work and play	84.8	94	23
c. Displaying childrens' work	84.4	91	46
d. Collecting money	87.9	94	22
e. Giving first aid	78.8	88	38
f. Helping children with wraps	72.7	97	13
g. Contacting parents	30.3	94	25
h. Supervising playground, cafeteria, bus loading, study groups, etc.	93.9	100	29
i. Helping in the school library, office, etc.	78.8	94	0

The data in the above Figure speaks for itself. Teachers and principals see the teacher aide as performing various kinds of housekeeping, while the aides with two possible exceptions, e.g. displaying children's work and giving first aid, show virtually no interest. It is worth noting that none of the aides felt they should be helping the school library office, etc.

Caution needed re data for planning

In reviewing the information categories above one is able to obtain a considerable amount of data regarding how the three groups view the role of the aide. Indeed, this kind of instrument could easily be completed by the principal and faculty of any school and then the data be used as a partial basis for planning an aide program. However, a word of caution regarding the kind of information which is used as a basis for planning is appropriate. Often we fail to think through exactly what kinds of questions we want to ask and then (more importantly) what we are going to do with the answers when we get them. In other words, information is only as valuable as the use to which it

Aides as substitute teachers

is put. For example, when the author was administering the questionnaire to the aides, one aide mentioned that we had failed to ask the most important question (i.e., most important to the aides), namely: "How much time do the aides spend as full time substitutes for the teacher in the classroom"? The aides were (verbally) requested to estimate the number of days per week they were assigned to substitute for the teacher. Table II presents the results of this question.

Table II

Number and percent of teacher aides who were regularly assigned by principals as substitute teachers

Average Frequency of Assignment	Number	Percent
Once or twice per week	91	54
Three or four times per week	36	21.5
Five times per week	5	3
No comment	36	21.5

Substitute teaching by aides

A quick glance at Table II shows that over half the teacher aides (54 percent) are spending up to 40 percent of their time assuming what amounts to complete instructional responsibility for children. Another view of the Table indicates that over 75 percent of the teacher aides were spending at least one day per week as substitute teachers. This data is perhaps not as startling as it might appear at first glance, particularly when one considers the difficulty school administrators in large cities have when attempting to locate competent substitute teachers. On the other hand, it _is_ startling when one considers what appears to be a threefold dilemma, e.g., (1) regular substitutes for many center city schools are difficult if not impossible to find; (2) the teacher aides are available and are used as often as not; and (3) the teacher aides questioned feel that they _should not_ be performing most of the duties which are, by definition, part of the task of the substitute teacher. This particular issue is not an easy one to resolve and no instant remedy is immediately obvious; however, the first step in its resolution is awareness of it as a problem. Indeed, the need for accurate description of problems and methods of collecting information about them has been the primary issue to which this chapter has been directed.

Major questions regarding teacher aides

Major questions which should be resolved prior to the institution of an aide program.

(1) What tasks are the teacher aides expected to perform?

(2) Are all the aides to be used the same way or are some to be used for clerical work, some for instructional activities, some for playground supervision, etc?

(3) What kinds of agreements among teachers and principals regarding the tasks of the teacher aides are necessary prior to the use of teacher aides in the classroom?

(4) What are the most appropriate criteria to be used for the selection of teacher aides?

(5) How directly should the teacher and principal participate in the selection of the aides?

(6) What should be the nature of the local school orientation and training of aides (we are concerned here with directly informing the aides about the nature of their task) so as to reduce variance between their percepts and those of teachers and administrators regarding what duties should be performed?

(7) Should teachers and principals be given training in the effective use of the aide?

(8) Should the teachers and the aides have a mutual training experience prior to the beginning of the school year?

(9) How can the principal and teacher develop a monitoring or evaluation system to determine if the aides' program is accomplishing its objectives?

The ultimate question may be: on what information base can the principal and teacher answer these questions and, then, what are some ways these answers can be operationally translated into a plan or plans of action?

Chapter 9

Community Interest in Local School Management

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As part of a larger study, this chapter presents an overview of community interest and concern for participating in the educational program of neighborhood schools. Times have changed, our population is urbanized, a rekindling of layman concern fostered by centralized educational administration which eliminates much communication has caused angry voices in many large school systems. This study attempted to elicit the feeling of parents in two types of schools toward school involvement by parents. Results should be of concern to all educators who are interested in fostering a better understanding of the community they serve and who desire to open better channels of communication to the community.

OVERVIEW

It is a relatively easy job to run most schools. It is hard to run a really good one, and harder still to improve a particular school. Likewise, it is easier to set directions toward a qualitative educational and information process in a new school than in an established one. No matter what the trials and tribulations -- the positives and the aversives -- the utopian process and conditions sought by all educators is always more attainable when community interest in local school matters is not only considered, but is welcomed.

Ye olde time
town meeting

In days of old the annual town meeting furnished a podium for all citizens of the community to air concerns and attitudes about local schools. The principal's salary, whether to purchase a new set of swings for the playground and whether to extend school bus service to a new area of the community were all open for comment and judgment on the part of the citizenry.

Urbanization
of population

This is, to a small extent only, evidenced in a few communities today. With 75% of the population residing in urban areas, the cry of bureaucracy cracks through the city. In a school system with more than 100,000 students, should only 200-300 citizens be expected at the annual budget hearing? Is the community unaware or is it perhaps disinterested?

The past few years have seen a resurgence of interest in programs, personnel and facilities offered to educators. The Conants, the Rickovers, the Passows and others have attempted to question the direction education is taking. Good or bad, they

Rekindling of Layman Concern

have all rekindled the layman's concern for local school management. The new math, CEMS (Chemistry Education Materials Study), FLES (Foreign Language in Elementary School), language labs, guidance personnel with testing programs, programmed instruction, schools in the round, SMSG (School Mathematics Study Group), as well as the changing occupational arena which all students will eventually enter, have caused concern on the part of each community.

Centralized structure might eliminate ease of communication

Questions are now being raised in most large school systems about how to communicate an opinion to school personnel. The local PTA is impressive to the local school principal but the local school is more often controlled by "outsiders" -- those in the centralized board office located in some other area of the community, be it a suburban area or a high density populated city. Even teachers who used to be next door neighbors now commute many miles and are no longer readily accessible.

While centralization of effort toward more qualitative education has predominated local scenes for the past 25 or so years, it has also brought representative versus participative governing and control. The individual voice is not as readily heard, might often be expressed in a representative sense to encompass all schools within a large district or intermediate unit and therefore relinquish the acuteness of a particular problem or concern at the local or individual school level.

The greatest concern is not that there has often been centralization primarily for the purpose of control by some political, religious or other group. Most Americans at any level would vehemently demonstrate actions against this reason for centralization if it involved the educational program. Morphet, Johns and Reller (1959) state:

> There are many people throughout the country who believe, in theory at least, in a certain amount of centralization for the purposes of efficiency. Many others, however, vigorously resist the idea, and especially so at the stage of practical application. One difficulty is that the terms 'centralization' and 'efficiency' mean different things to different people.
>
> The term 'centralization' in the field of education is often used to mean the organization of larger schools, larger school districts, or larger intermediate units. On the other hand it may mean that more things are done centrally -- that is, by the central office of the school or district, or by the intermediate unit.....rather than by the local school....

> Americans generally believe that maximum provision should be made and encouragement given to local responsibility and to the development of local leadership, which becomes a major source of (more responsible) leadership. However, if the local unit of government is too small there cannot be effective local responsibility.

Schonell and Needham (1967), two Australian authorities considering the merits of centralization wrote:

> State education (in Australia) became centralized by necessity....No system of local administration could have satisfied the needs of such a dispersed population...The inland, sparsely populated, country areas received schools and teachers with the same training and conditions of pay as did the more fortunately placed city areas.

The structure for control over education is unique in the United States. No other country gives as much control over education to the lay citizen. It is often remarked that educators in the United States are members of the only profession controlled outside of its professional ranks. In most countries lay boards of education are nonexistent and the citizenry seldom visit the schools except on request. In the same article by Schonell and Needham (1967) the statement is made:

> A majority of parents in Australia who send their children to state schools regard education as very largely a government concern. Parents generally are not encouraged to visit schools and would rarely enter a school without a special invitation (say, to some special activity) or without an urgent reason. The school tends to be separated from the rest of the community.

Thus, there exists a clear and evident delineation of not just concern but, to a much larger extent, responsibility.

What is the concern of today's parent?

This responsibility has been an acute point of discussion among educators and laymen for the past few years and in urban and suburban areas has manifested itself in actual action groups devoted to regaining control at the local level. The interaction of forces from the community, its school personnel and the administration is reported in case study form by many professional journals as well as laymen magazines. Such a concern was evident among certain neighborhood schools in Washington, D. C. The concerns of the laymen are not as often couched in a negative evaluation of the school program as much as a lack of potential input they might offer to shape the direction of the school. It is not necessarily criticism but certainly is a desire to be part of the planning for an educational program that will greatly affect the future of their own children.

Changes that have caused concern

It is often evident that monthly PTA meetings do not suffice. In a day when the average dropout has more educational background than the total population of 15 years ago, where mass media have afforded all citizens a knowledge of new happenings in society and specifically in education, the parent has been motivated and stimulated to become more aware of the quality and type of education a youngster is receiving.

A study to define concern

This book represents an anthology of concern that CAREL has concentrated on in the past few months. In all endeavors, its personnel has become more cognizant of the need for and availability of community interest in matters of education. A major endeavor of the Laboratory was undertaken in 1968 to define attitudes and percepts of the local taxpayers toward local school management. The CAREL staff was cognizant of the Ocean Hill-Brownsville project in New York City and the Adams-Morgan project in Washington, D. C., plus the growing trend toward a desire for more community involvement. It was felt by some professionals that such a voice needed to be obtained but that results would be inconclusive due to a low response on the part of parents. This concern will be discussed later in this chapter. The staff attempted to elicit the attitudes of a representative group of parents in the Washington, D. C., area toward community involvement in education. The study that ensued is described in the following paragraphs.

METHODS AND PROCEDURE

Participants in study

In order to accomplish the general and specific objectives of this research, it was necessary to obtain the understanding, cooperation and support of various personnel and school systems involved in the study. The segment of the study reported here is but one part of the total undertaking. Other segments have been reported and discussed earlier in this volume. Of primary importance to this position of the study was the support gained from the District of Columbia Public School System and the Archdiocese of Washington. These organizations agreed to support the CAREL research effort among the teachers and administrators employed in their schools.

Specifically the total faculties of each of two schools, one parochial and one public, met with Laboratory staff on several occasions to discuss the purpose and rationale of the study as well as to participate directly in the refinement of individual instruments.

Concern of Professional Personnel

The administrators and teachers in both schools were particularly concerned regarding how best to increase parent participation. Parents were being asked to give their views about issues related to the school in the community. Historically, parental response to queries of this sort had been largely ignored. Principals and several teachers from the two schools helped draft letters to parents which attempted to communicate the purposes of the study as well as why "parental/community" participation in the study was important. The fact that over 60 percent of the parents in one school and 80 percent of the parents in the other who were asked to respond to the questionnaires did so, is considered by the investigators to be one highlight of the study. A joint effort between the Laboratory and the schools resulted in parental involvement in school affairs in a way that had not been known in these communities before.

Involved in the pilot study were two urban elementary schools enrolling 1062 students with 33 teachers, 2 administrators, 250 parents, and 17 teacher aides. In addition, data was obtained from a 25 percent random sample of public and parochial elementary school administrators and 94.6 percent (N=169) of all public elementary school teacher aides in the District of Columbia for other aspects of the study.

The basic instrument for this segment of the study is shown in Figure 1 and was extracted as the third in a series of questionnaires sent to a randomly selected group of parents from the two participating schools.

Prior to sending the questionnaires to the parents, an attempt was made to introduce the reasons for the study and to familiarize the recipient of the instruments with CAREL. These letters were sent under the signature of the school's principal. An example of this letter is found in Figure 2.

The questionnaire was accompanied by a cover letter addressed to the parent and contained pertinent information that afforded the recipient (1) an introduction to the purpose of the study, (2) an awareness of who was conducting the study, (3) the response confidentiality agreement by the sender, (4) stimulation to respond and submit results, (5) and thanks from the principal of the school (see Figures 3 and 4).

FIGURE 1:

Part III PARENT'S SCHOOL-COMMUNITY QUESTIONNAIRE

TO THE PARENT

The five questions below are being asked to get some information from you about what you think parents and the community should be able to say and do in your school.

Parents' School-Community Questionnaire

1. Should parents help to select teachers in your elementary school?
   1. Yes .... _____
   2. No .... _____
2. Should parents help to select the principal?
   1. Yes .... _____
   2. No .... _____
3. Should your school have its own local neighborhood School Board?
   1. Yes .... _____
   2. No .... _____
4. If YES to question 3, how should the local board members be selected? Check one.
   1. By an election .... _____
   2. By appointment .... _____
5. Who should appoint them? Write in.

____

____

____

____

FIGURE 2:

INTRODUCTORY LETTER

April 5, 1968

Dear Parents:

I want to tell you about the educational study in which our school has been taking part. This study is being conducted by an organization called CAREL which is an educational research laboratory in Washington, D. C. CAREL is conducting research to improve education for all children. I, as well as the teachers, and children in our school have been helping to complete this study.

Introductory letter

I wanted you to know about this because some of you will be receiving a few short forms prepared by CAREL for you to complete during the next week or so. We hope you will find time to fill these out. Let me assure you that no one on the faculty at this school will see the individual responses. However, we will discuss the general results with the CAREL staff at a later date.

In my judgment, one way to improve instruction for all children is to gather meaningful information from teachers, students, and you, the parents. This study is a step in that direction.

We thank you for your kind cooperation in advance.

Very truly yours,

Principal

FIGURE 3:

COVER LETTER A

Dear Parent:

We want to find some better ways to work together with you to improve our school program. In order to do this we need to know your feelings about your child's achievement and his homework and how you feel about questions relating to the school and community.

We chose, by chance alone, one out of every four families to complete the checklists. You are one of those parents we are asking to help us. The checklist may be filled out by either parent or guardian and is to be unsigned.

Cover letter to Questionnaire

The checklists we are asking you to fill out are only one part of the study. We are also asking the children, the teachers, and all of the school staff to fill out some checklists which are to be unsigned. In this way we hope to get a more complete picture of the feelings of everyone who is concerned with your child's education.

We assure you that:

1. This will not be used to evaluate your child;
2. No individual who works with your child will ever see the checklists you fill out;
3. Your name or your child's name will not be used.

We know that you will want to participate in this study because it is one way in which all of us can get more information to use in improving our school. Thank you very much for your

FIGURE 3 (Continued)

help. Please put the unsigned checklist in the enclosed envelope and mail as soon as possible.

Sincerely,

Principal Director of Staff Utilization Program

FIGURE 4:

COVER LETTER B

Cover
Letter B

Dear Parent:

We want to find some better ways to work with you to improve our school program. In order to do this we need to know your feelings about questions relating to the school and the community.

We chose, by chance alone, one out of every four families to complete the checklists. You are one of those parents we are asking to help us. The checklist may be filled out by either parent or guardian.

The checklist we are asking you to fill out is only one part of the study. We are also asking the teachers and all of the school staff to fill out other checklists. In this way we hope to get a more complete picture of the feelings of everyone who is concerned with your child's education.

We assure you that:

1. No individual who works with your child will ever see the checklist you have filled out.
2. Your name or your child's name will not be used.

The principal and the faculty are also looking forward to the general results of the study in order to improve their future effectiveness in working with the children.

We know that you will want to participate in this study because it is one way in which all of us can get information to use in improving our schools. Thanks for your help. Please put the checklist in the enclosed envelope and mail as soon as possible.

Sincerely,

Central Atlantic Regional
Educational Laboratory

Ten days after the first letter and questionnaire were sent, a follow-up procedure was utilized to obtain the responses of those who had received the questionnaire but had at that time not remitted a completed questionnaire. An example of such a letter is found in Figure 5: Follow-up Letter.

FIGURE 5:

FOLLOW-UP LETTER

April 26, 1968

Follow-up Letter

Dear Parent:

On Tuesday, April 23, you received a questionnaire regarding certain aspects of your child's school. If you completed and returned the form, thank you very much and please disregard this letter. If you have not completed and returned the form please do so as soon as you possibly can.

We at this school consider this to be an important study and would appreciate your cooperation very much.

Sincerely,

Principal

RESULTS

Analysis of the responses was completed by the Central Atlantic Regional Educational Laboratory staff and reported to each school's professional personnel. Although it has not yet been accomplished, it would seem to be of paramount importance that the results also be shared with the participating parents. Certainly, if they responded to the request, professional judgment would warrant that results be furnished either through a letter or in a special PTA meeting. Parents should also be given the opportunity of having dialogue with the school personnel where valuable overt responses might throw more light on the results and add quality to the quantification of feelings and attitudes which the questionnaire elicited. The data might also be a valuable tool to commence with further plans that will be the catalyst for implementing practices to concur with the attitudes of the community.

TABLE 1: RESULTS OF PARENT'S SCHOOL-COMMUNITY QUESTIONNAIRE
(KINDERGARTEN THROUGH SIXTH GRADE)

QUESTIONS FROM INSTRUMENT	SCHOOL TYPE	RESPONSES			
		YES		NO	
		NUMBER	PERCENT	NUMBER	PERCENT
1. Should parents help select the teachers? (N=188)	Non-public	20	22	73	79
	Public	38	40	57	59
	TOTAL	58	31	130	69
2. Should parents help select the principal? (N=188)	Non-public	15	16	78	84
	Public	33	34	62	65
	TOTAL	48	26	140	74
3. Should your school have its own local school board? (N=187)	Non-public	53	57	40	43
	Public	60	64	34	36
	TOTAL	113	60	74	40

Parents were negative toward selecting teachers

As a group, parents felt that teaching personnel should not be selected by them although 40% of the public school parents and 22% of the nonpublic school parents were positive in their attitude toward this question. A significant difference was found at the .01 level, through using the T-test of proportion (Guilford 1965: 185-186), between the two categories of respondents reported favoring the negative response.

A significant difference (.01 level) was also found between the "YES" and "NO" responses to Question 2 which elicited the attitudes of the parents toward the selection of a principal. The parents were not in favor of allowing the community (parents) to help select the school's chief administrator (74%; N=140). A slightly larger percent showed a more negative response to this question than to the first question. A larger percent of the nonpublic school parents were negative (84%; N=78) in their response to Question 3 as compared to the public school parents (65%; N=62).

Parents were positive toward having a Local School Board

The parental response was favorable to the question of whether they should have a local school board. By school types, 57% (N=53) of the nonpublic and 64% (N=60) of the public school parents favored having a local school board. With both school types combined, 60% (N=113) of the parents were in favor of a local school board.

TABLE 2: PARENTS WHO WOULD HAVE A LOCAL SCHOOL BOARD, and HOW IT WOULD BE CHOSEN (N=113)

QUESTION FROM INSTRUMENT	SCHOOL TYPE	HOW CHOSEN			
		ELECTION		APPOINTMENT	
		NO.	%	NO.	%
How should the board members be chosen?	Non-Public	45	83	9	17
	Public	46	78	13	22
	TOTAL	91	81	22	19

Table 2 presents the results of the fourth question. Only parents who said there should be a local school board were asked to complete this question. Of the 113 parents who felt there should be a local school board (60% of the total respondents), two alternatives were given for selection of such a board; by an election or by appointment. The results show significance at the .01 level for election of a local board (81% versus 19% of the total respondents). By school type, there was not a significant difference in the means of selection with 83% (N=45) of the non-public school parents and 78% (N=46) of the public school parents feeling that the local school board should be an elected body.

CONCLUSIONS

Given the data reported in Tables 1 and 2 certain conclusions can be reached that have implicit meaning for community-school planning, the attitude of parents toward the professional judgment of school personnel and the need for obtaining the voice and feeling of the population served by local community or neighborhood schools. However, given the size of the sample obtained in this pilot study, the conclusions must be cast within the frame of reference of the population studied; and any generalizations must be viewed with caution if we are to go beyond this sample. The following conclusions are appropriate for the results obtained:

1. Parents do not feel they should have a voice in the selection of teaching personnel for the school.

Appropriate Conclusions

2. Parents do not feel they should have a voice in the selection of the principal for the school.

3. Nonpublic school parents are more negative about having a voice in the selection of teachers and a principal as compared with public school parents.

4. Parents do favor having local school boards.
5. Public school parents as compared with nonpublic school parents are more favorably disposed toward having a local school board.
6. A rather large minority of parents would not be in favor of having local school boards (40%).
7. Local school boards should be chosen by an election process.
8. Parents of public school children (80% response) opposed to parents of nonpublic school children (60% response) seem to be more willing to respond to the questions presented.

IMPLICATIONS

The implications of such a study are significant, given the tenor of the times, the acute problems of the inner city, the problems and trends of education and can be supported by such projects as the Adams-Morgan Neighborhood Project in Washington, D. C., the Anacostia Project in the same city, as well as the often mentioned and discussed Ocean Hill-Brownsville Project. Other projects of this nature are under way in many other urban or metropolitan areas of the country. Educators have a responsibility to the public they serve and must be cognizant of changing attitudes and concerns of the population they serve. Avenues of communication must be opened. A means of fostering better relationships between those served and those serving must be sought.

In the case of this pilot study, five rather simple questions answered by the parents have furnished data that, when fully understood, should afford both of the schools involved a better understanding of the community and can be a catalyst for opening better avenues of communication. It perhaps should go without saying that all educators desire meaningful and purposeful dialogue and communication. It should not go without saying that such practices are often left to haphazard procedures. Such cannot be the case in education today.

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